

TECHNOLOGY DEPT.

Chilton's MOTOR AGE

AUGUST 1952

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DETROIT



In This Issue:

Tuning the MG Sports Car

Tough
on oil-pumping
GENTLE
on cylinder walls

Gentle because Steel-Vent's two wall-contacting steel sections have rounded edges which provide hairline contact and reduce drag to a minimum.

Gentle because the Steel-Vent spacer has extra wide vents that let oil flow through freely for extra cylinder wall lubrication.

Gentle because Steel-Vent's flexible, low-tension inner spring works only against the steel sections—holds them on cylinder wall with soft pressure. Result: maximum life, minimum wear.

HASTINGS MANUFACTURING CO., HASTINGS, MICH., HASTINGS LTD. TORONTO
 Piston Rings, Spark Plugs, Oil Filters, Casite, Drout

TOUGH but oh so GENTLE



HASTINGS

**STEEL-VENT
 PISTON RINGS**

RIGHT FOR RE-BORE, RE-RING, RE-SLEEVE



MAKE YOUR WATER CAN A SALESMAN



Prevent Rust! Stops Squeals!

Every time you give "FREE WATER" is the time to look for a sale of Permatex Water Pump Lubricant and Radiator Anti-Rust. Take a look at the water in the radiator before you add fresh. If it's rusty, suggest draining the radiator and adding a can of Permatex Water Pump Lubricant. It will neutralize acid and keep the water crystal clear. Listen for a pump squeal. This Permatex Product serves a dual purpose, it takes the squeals out of water pumps and prevents the formation of rust. Will work perfectly in any standard anti-freeze.

PERMATEX COMPANY, INC., Brooklyn 35, N. Y.

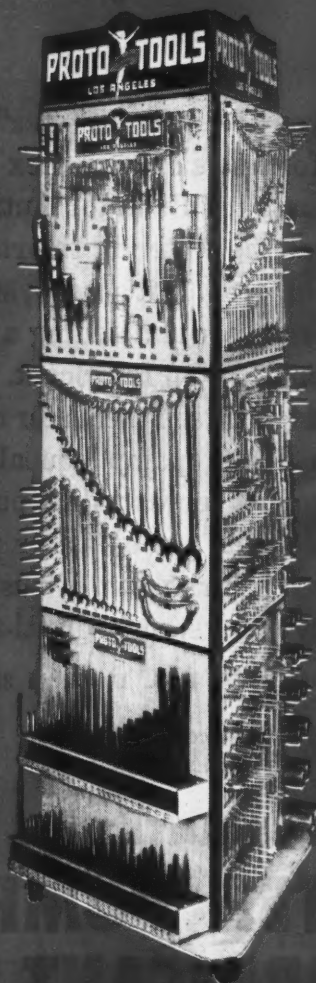
*Over 50 Chemical Products for
better automotive maintenance*

**PERMATEX
WATER PUMP
LUBRICANT
and RADIATOR
ANTI-RUST**



**All Privates, "Brass,"
and Even Mules . . . Know**

**PROTO means
PROfessional
TOOLS!**



Accurate manufacture is a big reason why PROTO tools are *professional* tools. Very close tolerances are specified and met through the use of precision machines and advanced methods in modern factories. As a result, wrenches fit snugly on nuts and bolt heads; handles and attachments join sockets properly; pipe and adjustable wrenches, ratchets and pullers operate smoothly; plier cutting jaws meet perfectly, and screwdriver bits fit screw slots exactly. Accurate PROTO tools are faster, safer, easier to use. And remember, too, that they have field-tested designs, use PROTO-specified alloy steels, are scientifically heat treated and are guaranteed. For truly *professional* tools, see the very complete line displayed by your PROTO dealer. Send 10¢ for 68-page catalog to

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2226U Santa Fe Ave., Los Angeles 54, Calif.

The PROTO Line Includes Wrenches of All Types, Pliers, Screwdrivers, Punches, Chisels, Sockets & Handles, Pullers, Tool Boxes, Industrial Tools & Many Others

Eastern Factory—Jamestown, N.Y.

PROTO TOOLS

REG. U.S. PAT. OFF.
MADE IN U.S.A.

LOS ANGELES

PROTO means
PROfessional
TOOLS

Chilton's MOTOR AGE

WITH WHICH IS COMBINED AUTOMOBILE TRADE JOURNAL

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For THE AUTOMOTIVE SERVICE INDUSTRY

LXXI, No. 9

August, 1952

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"That's the real McCoy!"

"You're not the first dealer who's said that! This county analysis folder here really has the facts dealers go for. It shows in black and white how Farm Journal gives you the local support you want."

"Sure, Farm Journal's a big national magazine, and has tremendous circulation. But it doesn't waste shots on the big cities covered by dozens of other magazines. It aims at Rural America and hits that target like nobody's business."

"Because Farm Journal is so big in its specialized field it has coverage in the better rural areas like a local newspaper."

Most dealers recognize the fact that rural people are among the

very best customers of the automotive industry. In fact, they say they depend on rural customers for a good half of their business. That's why they're delighted when a salesman armed with Farm Journal's County Analysis Folder shows them how much America's largest rural magazine does for them among their own rural and out-of-town customers.

Here's an example of what we mean by coverage like a local newspaper. One of the nation's better newspapers, the Omaha World Herald, recently issued an analysis of its coverage in 645 towns and surrounding rural areas in Nebraska and western Iowa. Farm Journal has

circulation in and around *every one* of those 645 communities, and in well over half of them Farm Journal delivers more copies along the RFD routes than the newspaper!

What's true of Omaha is true of the out-of-town areas of hundreds of cities and towns all over America—Muncie, Ind.; Minneapolis, Minn.; Lima, Ohio; St. Louis, Mo.; Norristown, Pa.; Indianapolis, Ind. — or the place where *you* do business.

If you'd like to see what Farm Journal's coverage is in your territory, what it means in dollars and cents to you, send for the County Analysis Folder for your state. Write Dealer Service Department.



ANOTHER GOOD OPPORTUNITY TO BUILD GREATER BUSINESS LOCALLY. Farm Journal's unique "Keep 'Em Rolling" editorial program constantly promotes better maintenance of automotive equipment. These features are welcomed by dealers as well as farmers for the preventive maintenance suggestions they contain, and for the emphasis they place on getting service work done at the right time, when both profit most.

Farm Journal

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GRAHAM PATTERSON, PUBLISHER



**It's Easy to Get EXTRA
CAMBER When I Install**

MOOG OFFSET PIVOT SHAFTS *with the Camber in the Part*

**A complete line of Upper and Lower
Offset Pivot Shafts for most cars
with eccentric Bushings and Pins**

Here is the ideal replacement for a permanent installation. The Moog Offset Pivot Kits have the camber in the part at no extra cost. Thus the difficulty of setting camber is eliminated with Moog Offset Pivot Shafts. By offsetting the bolt holes, approximately an extra degree of camber either plus or minus may be obtained and the regular eccentric adjustment can still be used if necessary; this eliminates dangerous bending. This is an original Moog feature—and “You can get the complete line only through Moog!”

**MOOG DESIGNS AND BUILDS
A PART TO DO A BETTER JOB
THAN THE ONE IT REPLACES**



MOOG OFFSET PIVOT SHAFTS IN KITS FOR THESE CARS:

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K-38-S	for Lincoln-Mercury 1949-51
K-80-S	for Buick 1946-51
K-112-S	for Cadillac 1941-51; Buick, Oldsmobile and Pontiac 1937-38; Packard 1941-51
K-118-S	for Kaiser Frazer 1946-51; Hudson 1940-47; Oldsmobile and Pontiac 1939-51; Studebaker 1950
K-124-S	for Chrysler, De Soto, Dodge and Plymouth 1940-51; Nash 1941-51
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K-177-S	for Studebaker 1951



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your Guidepost to Better Roller Bearing Service

BOWER

**TAPERED AND STRAIGHT
ROLLER BEARINGS**

available through

FEDERAL-MOGUL

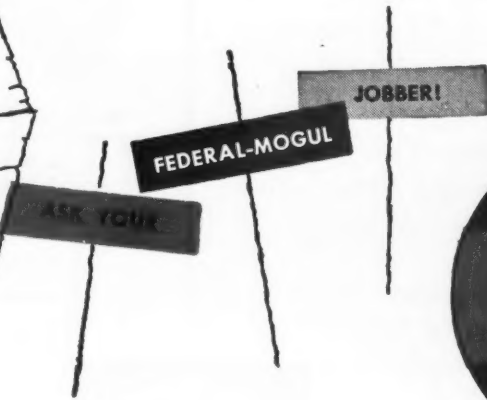
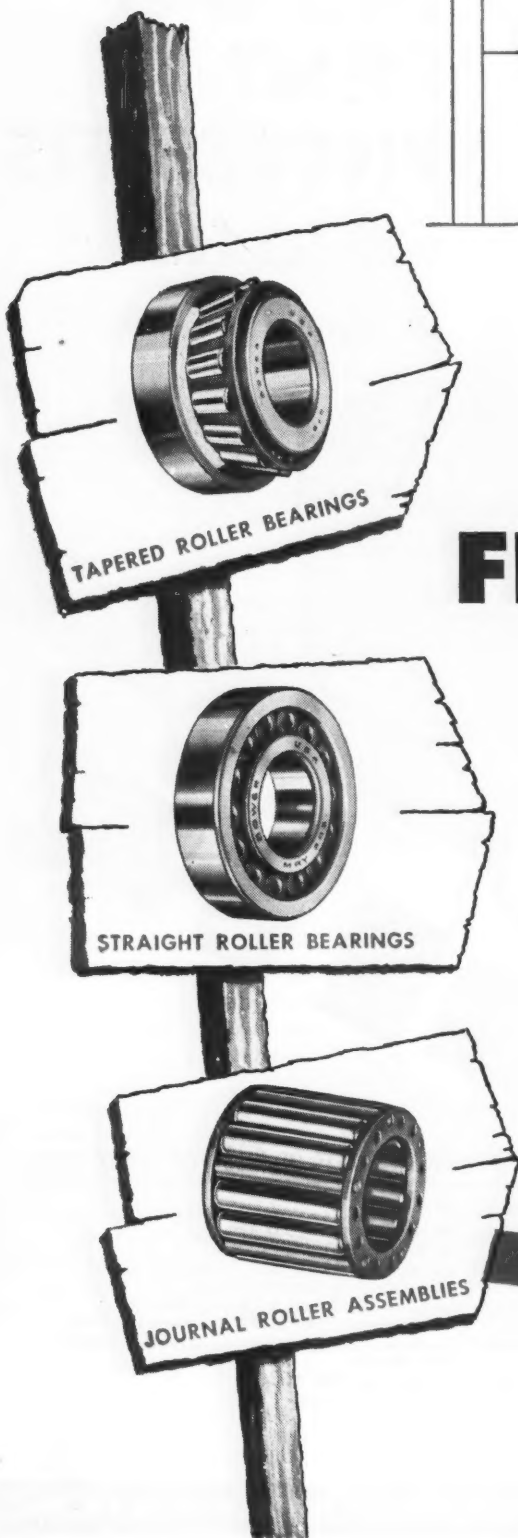
You get quality, coverage and ready availability in the Bower roller bearing line, available through Federal-Mogul jobbers.

Bower makes *both* tapered and straight roller bearings. Tapered roller bearings are Spher-O-Honed—which means special quality features exclusive with Bower. Straight roller bearings have finest tolerances and durable double-lip construction for strength.

Good mechanics choose Bower roller bearings!

FEDERAL-MOGUL SERVICE

(Division of Federal-Mogul Corp.) DETROIT 13, MICHIGAN



This Special Assortment of fast-selling

DELCO-REMY parts puts you in the ignition business AT LOW COST!



Delco-Remy electrical equipment is the logical foundation for any electrical service business. And this Special Assortment of fast-selling Delco-Remy electrical parts is the ideal way to make a start in this business.

Nearly half the cars and trucks that pass your door are equipped with Delco-Remy products. The assortment we are offering is composed of the necessary distributor caps, rotors, contact sets, coils and condensers with which to capture your share of this vast market.

Free Merchandising Aids... Small Investment

With the Special Assortment you also get an attractive display, which incorporates important data on parts identification and application. All in all, this is the easy, low-cost way

to get into the ignition business. Contact your local United Motors wholesaler and find out how easy it is to get into the ignition business with Delco-Remy.

Delco-Remy

DIVISION, GENERAL MOTORS CORPORATION
ANDERSON, INDIANA

DELCO-REMY

A GENERAL MOTORS PRODUCT   A UNITED MOTORS LINE

DISTRIBUTED BY WHOLESALERS EVERYWHERE

WHEREVER WHEELS TURN OR PROPELLERS SPIN



Our body shop nets
we use the entire

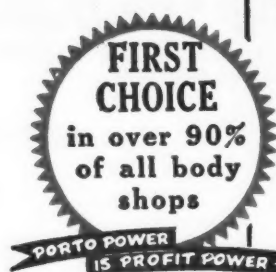


"We couldn't handle major wrecks profitably without the entire 'Porto-Power' package!" And the key assortment in that "package" is the S-200 (above). It pays out fast in both small and

big shops—on body jobs, auxiliary frame and axle service and repair work. Includes 4, 7 and 10-ton hydraulic rams, plus spreaders, attachments and a versatile press. A *must* for today's cars.

Only Blackhawk gives you a *complete* line of vital body equipment

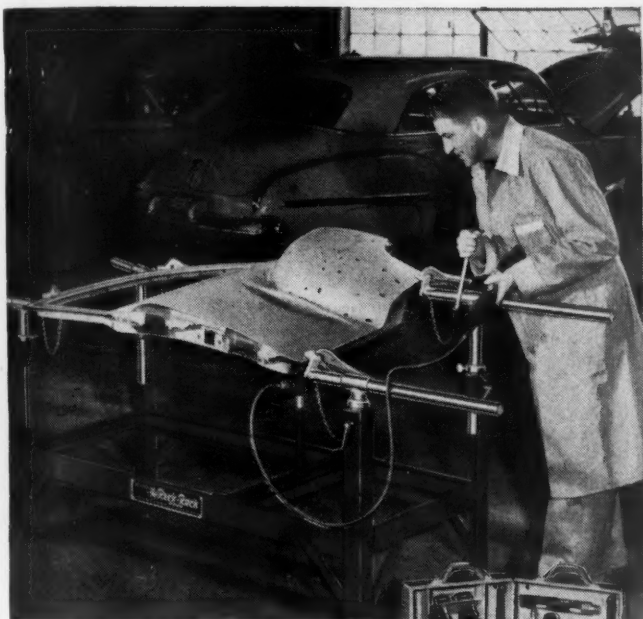
THERE'S astounding profit in body work for shops equipped with the entire "Porto-Power" package. Leading insurance men report one of five car-repair claims exceeds \$250! And, whether it's big wrecks or wrinkled fenders — "Porto-Power" covers the field! You'll salvage more body sections . . . cut costs . . . make bigger profits. Save the time of valuable men and keep 'em happier on the job. Order today from your Blackhawk jobber.



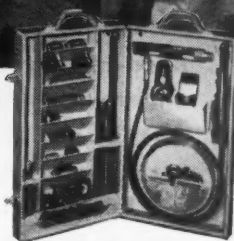
IF IT DOESN'T OFFER YOU ALL THIS . . . IT'S NOT A "PORTO-POWER"

- ☐ A full range of essential rams!
- ☐ Ability to PULL with FULL POWER!
- ☐ Easier handling . . . a single hose . . . revolving coupler . . . all-directional ram!
- ☐ Interchangeability of rams!
- ☐ Spreaders with built-in hydraulic rams!
- ☐ A complete line of body shop attachments!
- ☐ Specialized attachments for repair service.

whopping profits... because **Porto-Power**® package!



"Every body man has his own Bantam." Its 2 tons of power zips up sheet metal work and rounds out your essential package of "Porto-Power" equipment. And "Reck-Rack" slashes off-car metal rough-out time 50% by rigidly holding body sections.



"We keep our 'Porto-Power' package up to date." No body shop is fully equipped without all essential extras like this Bantam "Pull Kit." Remember — "Porto-Power" can *push* or *pull* more ways!



more true today than ever: there's no substitute for **Porto-Power**

Body shop business is greater! And replacement body sections and body experts are scarce. That's why you need the *best* body shop equipment... why the great "Porto-Power" superiority is so important to *your* income. Make sure you have the *complete* "Porto-Power" package!

"Porto-Power" is the exclusive (trademark registered) product of Blackhawk Mfg. Co.

BLACKHAWK®

Chilton's MOTOR AGE, AUGUST, 1952

FOR FREE BOOK
CLIP THIS COUPON
AND MAIL TODAY!



BLACKHAWK MFG. CO.
Dept. P-682, Milwaukee 1, Wis.

Please rush your free catalog on the complete "Porto-Power" package including all attachments.

Name _____

Firm _____

Address _____

City _____

Zone _____

State _____

You can not build permanent business with inferior brake lining . . . The sure way to satisfy customers, increase business, and make greater profits is to reline with Raybestos PG Proving Ground Tested Brake Lining Sets. They give the safe, sure stops and have the long-lasting life that complement your good shop work, satisfy your customers, and increase your profits.



INSIST ON THE RAYBESTOS BRAND ON EVERY PIECE OF BRAKE LINING. IT'S THERE FOR YOUR PROTECTION.

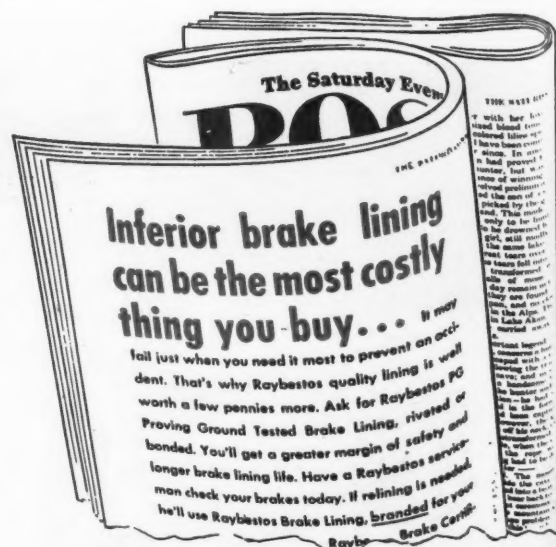
PG for riveting

Ray-BOND for bonding



PULL WHEELS AND USE THE RAYBESTOS BRAKE CERTIFICATE

These two things, plus the quality of Raybestos Brake Lining, will give you the keys to brake service volume. And month after month, powerful pre-selling Raybestos ads like the one below will support you by urging city and rural car owners to have their brakes certified safe.



YOUR CUSTOMERS AND PROSPECTS WILL READ THIS RAYBESTOS AD

Hard-hitting advertisements like this are appearing regularly in **The Saturday Evening POST** and in **Farm Journal** • Thousands of car owners right in your own neighborhood will become brake lining conscious . . . will want to buy Raybestos.

50 YEARS OF SERVICE . . . 50 YEARS OF PROGRESS . . . 1902-1952



Raybestos® PG SETS
AMERICA'S BIGGEST SELLING BRAKE LINING

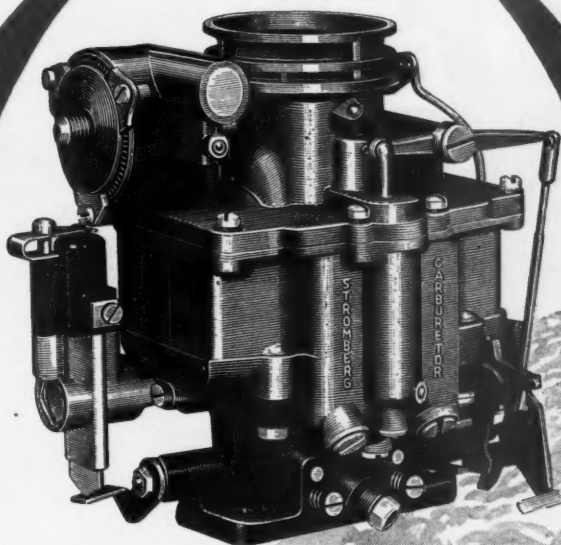


RAYBESTOS DIVISION of Raybestos-Manhattan, Inc., Bridgeport, Conn.

RAYBESTOS-MANHATTAN, INC., Manufacturers of Brake Linings • Brake Blocks • Clutch Facings • Radiator Hose • Fan Belts • Mechanical Rubber Products • Rubber Covered Equipment • Packings • Asbestos Textiles • Sintered Metal Products • Abrasive and Diamond Wheels • Bowling Balls

STROMBERG*

You Sell Premium Features at No Premium in Price!



SIMPLICITY—Fewer working parts result in long wear and low maintenance.

ANTI-PERCOLATOR—A Stromberg feature that prevents hard starting and waste of gas when the engine is hot.

ECON-O-METERING—Separate metering systems for cruising and high speed operation assure utmost economy always.

ACCEL-ABILITY—Positive and smooth acceleration satisfying the most critical.

BALANCED RATIO—For additional economy, a sealed unit automatically controls the amount of gasoline used in proportion to the amount of air.

These Bendix signs stand for good business and for good business relations between factory, dealer and customer.



Replacement Carburetors
—Repair Kits



Original Equipment on
most cars



Hydrovac® Power Brake
—Trailer Power Braking
Systems



Cold Immersion Parts
Cleaner saves time and
money

*REG. U. S. PAT. OFF.

The **Bendix** SOUTH BEND
PRODUCTS DIVISION INDIANA
Standard Equipment Sales: Elmira, N. Y.

uality

CARBURETOR

Canadian Sales: Bendix-Eclipse of Canada, Ltd., Windsor, Ontario, Canada • Export Sales: Bendix International Division, 72 Fifth Avenue, New York 11, N. Y.



\$50,000 a day— for waiting!

These manufacturers are waiting.

In their factory, the production line has halted, the men are idle. And every day of this inactivity is costing them \$50,000—and more!

What happened? One small breakdown in an important machine has stopped the works!

Even though replacement parts are hundreds of miles away, there's one

way they could cut those days of waiting to *hours*. It's an answer that is saving thousands of manufacturers thousands of dollars every day.

That answer is—Air Express!

Air Express speed means *production* line speed. Whether your business is factories, films, or food, you can profit from regular use of Air Express. Here's why:

IT'S FASTEST — Air Express gets *top priority* of all commercial shipping services — gives the fastest, most complete door-to-door pick-up and delivery service in all cities and principal towns at *no extra cost*.

IT'S DEPENDABLE — Air Express provides one-carrier responsibility all the

way and gets a *receipt upon delivery*.

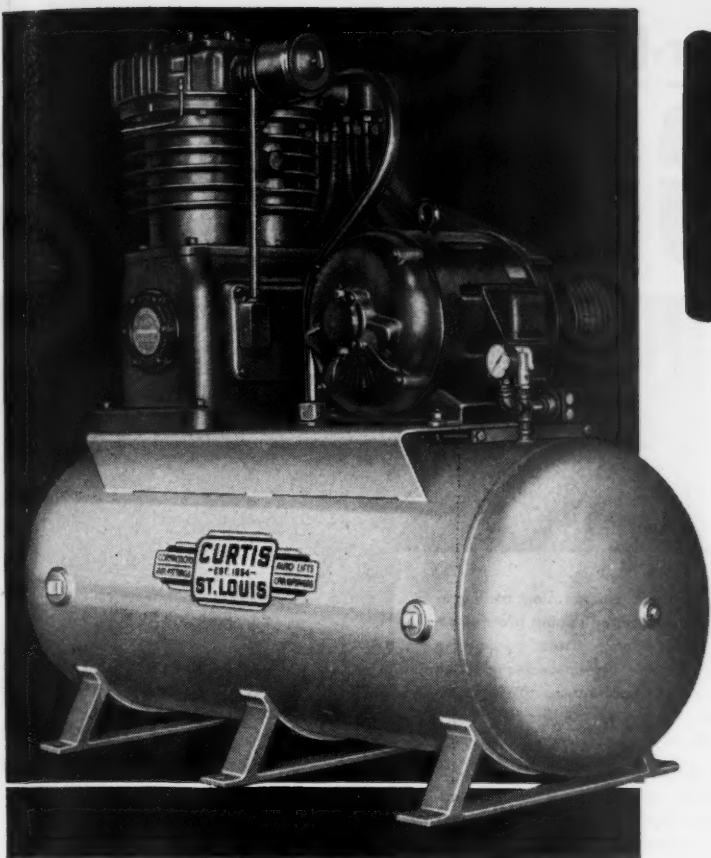
IT'S PROFITABLE—Air Express service costs less than you think, gives you many profit-making opportunities.

Call your local agent of Air Express Division, Railway Express Agency.



AIR EXPRESS
GETS THERE FIRST

Chilton's MOTOR AGE, AUGUST, 1952



It's New

MODEL V-9812

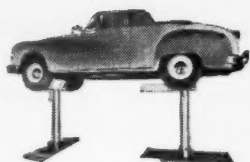
Curtis AIR COMPRESSOR

**15 H. P.—TANK MOUNTED
TWO-STAGE—AIR-COOLED**

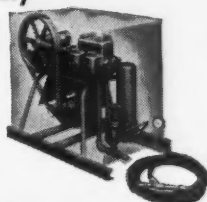
Features that make the V-9812 truly outstanding:

1. Two-Cylinder Compressor — less friction and less oil consumption.
2. Vibration Free — smooth operation
3. Self Oiling by positive Centro-ring method
4. Timken Main Bearings — provide easy external adjustment
5. Four section Finned Intercooler — effective cooling between stages
6. 120-gallon ASME — Air Tank — Automatic Electric Weld. 200-lb. pressure
7. Automatic Start and Stop Control, with positive vacuum-type starting unloader
8. Precision Built — assures long life and minimum maintenance
9. Experience — Backed by 98 years of "Know-How"

**Other CURTIS Equipment Known for Quality
and Dependability**



**CURTIS FULL HYDRAULIC TWO-POST SHOP
LIFT**—for Passenger Cars, Trucks and Busses



HYDRAULIC CAR WASHER (300 Pounds Pressure)
For better and faster car washing; more cars are washed per day — more profits for you.

See your CURTIS jobber or use this coupon . . .

CURTIS PNEUMATIC MACHINERY DIVISION

of Curtis Manufacturing Company

1946 Kienlen Avenue • St. Louis 20, Mo.

CURTIS PNEUMATIC MACHINERY DIVISION

of Curtis Manufacturing Company

1946 Kienlen Avenue, St. Louis 20, Missouri

I am interested in items checked:

☐ AIR COMPRESSORS ☐ AUTO LIFTS (Single Post) ☐ Two Post
☐ POWER CAR WASHERS

Name.....

Firm.....

Street.....

City.....Zone.....State.....

NOW! Mobiloil's New Super-Detergent Formula Assures — LESS ENGINE WEAR



This amazing new combination of ingredients helps give longer engine life—drastically reduces engine wear during the periods when most wear occurs—during starts, warm-ups and stop-go driving. Less engine wear means less oil used—an extra saving you can offer customers!

Yes, more than ever, New Mobiloil's triple action assures minimum wear, top protection against deposits and corrosion, peak operating economy. Why sell anything less?



LESS OIL CONSUMED



PROVED

**IN SENSATIONAL NEW
RADIO-ACTIVE TRACER TESTS!**

USE of radio-active tracers from the Oak Ridge atomic pile—a startling new and reliable method—measures the wear-reducing qualities of New Mobiloil with new super-detergent formula.

Radio-active piston rings are installed in test engines. "Hot" metal particles, worn off the rings into the motor oil, are then measured by Geiger counters and electronic recording machines. The result? . . . an almost unbelievable cut in costly engine wear!

NEW Mobiloil

SOCONY-VACUUM OIL CO., INC., and Affiliates: MAGNOLIA PETROLEUM COMPANY, GENERAL PETROLEUM CORPORATION

Avoid comebacks on brake jobs! Use Grey-Rock Balanced Braksets



Every segment factory-branded for your customer's protection. For riveting or for bonding.

Only **Grey-Rock** *makes*
BALANCED BRAKSET LININGS



GREY-ROCK DIVISION of Raybestos-Manhattan, Inc., MANHEIM, PA.

RAYBESTOS-MANHATTAN, INC., Manufacturers of Brake Linings • Brake Blocks • Clutch Facings • Fan Belts • Radiator Hose • Packings • Mechanical Rubber Products • Rubber Covered Equipment • Asbestos Textiles • Sintered Metal Products • Abrasive and Diamond Wheels • Bowling Balls

Grey-Rock advantages Satisfied Customers



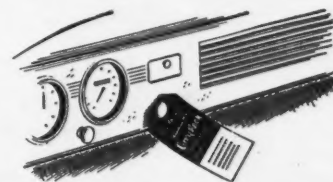
Keep 'em happy with their brake jobs by using Grey-Rock Balanced Braksets! For each make and model of vehicle, Grey-Rock gives you a combination of friction materials to assure smooth, quiet, safe stops with fewer adjustments. You get even wear on all shoes, too, with longer lining life.

Reputation Booster



Your reputation for good brake work climbs higher every time you install Grey-Rock Linings . . . the linings regularly advertised for years. Car owners know the Grey-Rock name, and have greater confidence in shops that use Grey-Rock.

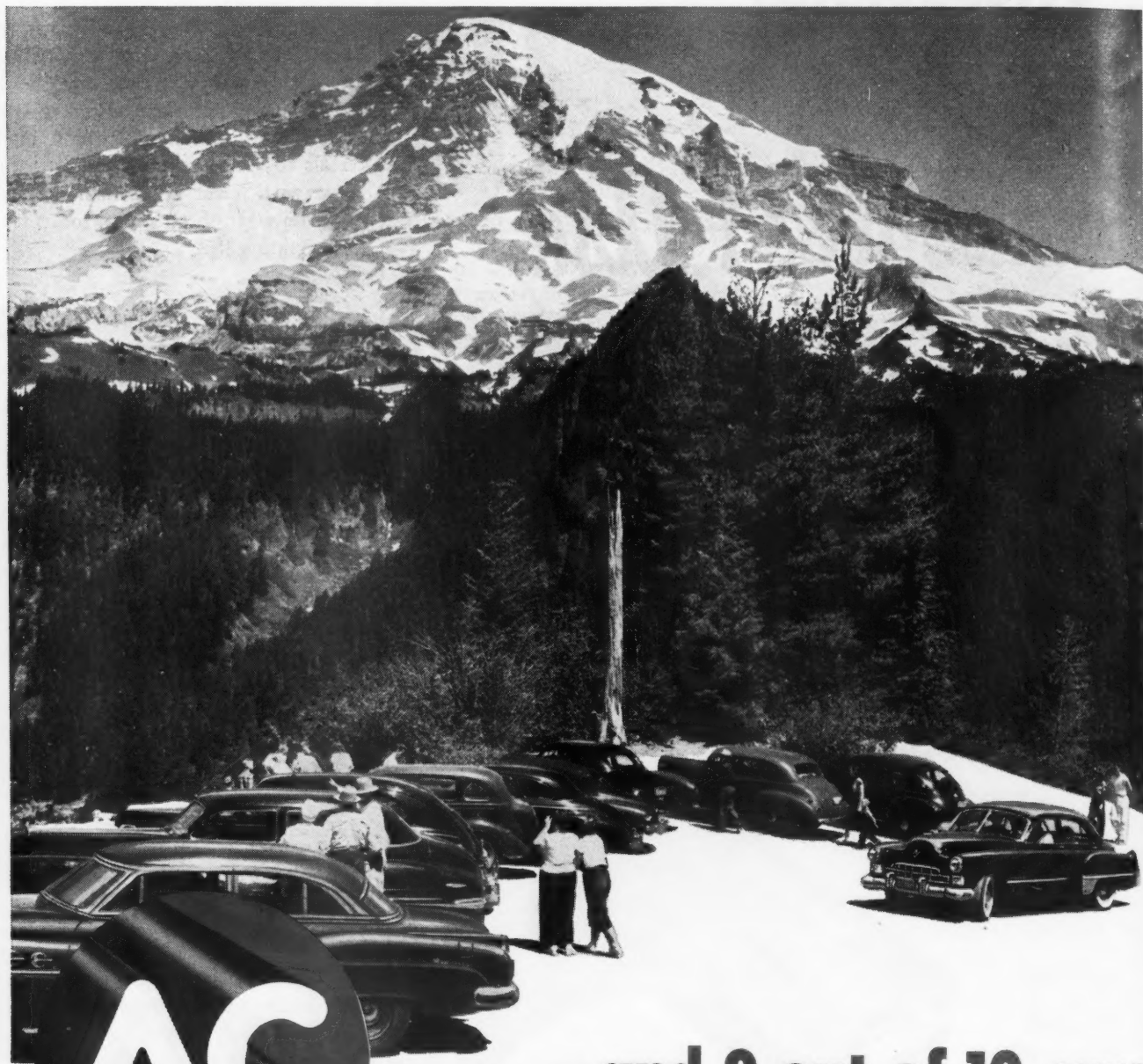
Proof of a Better Brake Job



This tag is packed in every Grey-Rock set, ready for you to snap on a dash button of your customer's car. It tells how your workmanship joins with Grey-Rock Balanced Braksets to deliver a better brake job. It's good advertising for your shop!

Consistently advertised in
POST and **Country Gentleman**

Vacation time is travel time for millions of motorists



AC

**QUALITY
PRODUCTS**

**—and 9 out of 10 cars
have one or more AC
products which may
need replacing!**

VACATION TIME IS HARVEST TIME FOR AC DEALERS EVERYWHERE

AC dealers make extra summer profits, from local and transient trade, by cashing in on AC's commanding equipment position and tremendous public acceptance.



The Industry's Fastest-Growing Line—Original or approved equipment on Buick, Chevrolet, Cadillac and Olds.



With Patented CORALOX Insulator—Factory equipment on more new cars than any other make of spark plug.



The Only Complete Line—More than 100,000,000 have been built—more than 40,000,000 are in daily use.

SPEEDOMETER CABLES • AIR CLEANERS • FLEXIBLE LINES • GAS STRAINERS

AC SPARK PLUG DIVISION



GENERAL MOTORS CORPORATION



F. J. LAHER, an engineer and manufacturing executive who makes brake lining research his hobby, and who has had perhaps more experience in research of heavy duty brake materials than any man in America.

The Most

PHENOMENAL

Have You Read "THE THREE VANISHING KILLERS"?

What Readers Say -

"This is the first reasonable answer to the timeworn excuse 'I had brakes all day, but when I tried to stop this time, they wouldn't work!'"
—Arnold L. Haupt, Steffke Freight Co., Wausau, Wisconsin

"I was very much astonished and pleased to find and meet a president of a brake lining company who is so well informed on brake lining problems. Thanks for a most interesting discussion on brake lining problems that face the American public today."
—Hedley Dreher, Friction Materials Consultant, Alpine, N. J.

"After reading 'The Three Vanishing Killers' we wish to compliment the author for expressing so much in so few words."
—Allen E. Hawkes, Director, Registry of Motor Vehicles, Providence, R. I.

"Why does a man stick his neck out like this when it is obvious there is no money to be made doing it. May I congratulate you on the fine job."
—Frank Postma, Auto Repairing, Paterson, N. J.

"We are instructing everyone in our shop to read 'The Three Vanishing Killers.' We wish we knew of a definite way to see to it that everybody at all interested in automotive safety maintenance could have the advantage of the knowledge contained here."
—Leonard's Precision Brake Service, San Diego, California

"It is gratifying to find one man in the brake lining business big enough to admit the weaknesses of the present day brake. I have spent 25 years working on brakes and still hard at it and it is seldom a man comes into my shop that has had a 'price reline' who hasn't had some experience with one of the three killers."
—Don's Safety Spot, Pasadena, California

"My praise goes to the men responsible for this booklet. I believe every mechanic and every driver should be required to read same."
—Frank R. Martin, Lawrenceville, Illinois

"Your method of testing brakes under actual motoring conditions sounds like the best approach to many of our everyday brake problems."
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"We are specialists in the brake business and we think this is the best summary of brake problems we have ever seen."
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"It is without doubt the best treatise on brakes I have ever read. It really hit home. I am so greatly impressed with the information therein that I am having everyone in my organization read it."
—Charles Raynoha, Bay Shore, N. Y.

A FEW OF THE THOUSANDS REQUESTING F. J. LAHER'S BOOKLET
"THE THREE VANISHING KILLERS"

The Three Vanishing Killers

A
Treatise
ON
BRAKES

by F. J. Laher

Until you have read the booklet shown above, you are not fully informed on present day automobile and truck brakes. In this booklet we lay bare some facts that others would just as soon not mention. Write us and we will gladly mail you a personal copy.

F. J. Laher, President

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BUREAU OF PUBLIC SAFETY

CHRYSLER CORPORATION

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TEXAS DEPARTMENT OF PUBLIC SAFETY



FEDERAL MOTOR TRUCK COMPANY

INTERNATIONAL HARVESTER COMPANY
MOTOR TRUCK DIVISION

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BRAKE MATERIAL

Ever Made!



In our road testing of 18 of the most popular brands of American made brake linings we discovered things that would never have been learned by the brake lining makers who depend solely upon the laboratory dynamometer for their performance data. We, too, use the dynamometer to obtain certain information, but actual road testing on Western Mountain Grades showed that the majority of brake linings would make only from 4 to 9 hard dead stops, all from 40 mph on a 13% grade, before they failed. We discovered and isolated the causes of those brake failures—ORIGINAL or hot fade—SECONDARY or cold fade. With that first hand knowledge, we did something about it. We developed LASCO SUPERBLOX which, under identical road tests scored 34 hard dead stops, all from 40 mph on a 13% mountain grade on a 2 mile stretch in a total elapsed time of 5 minutes. That's four times the best performance we found in any other brake lining, and on that score we offer LASCO SUPER BLOX as America's Finest Brake Lining.



In addition to SUPER BLOX, Lasco also produces BLUE LABEL ENGINEERED SETS which have no equal for self equalization, silent performance, and non-fade qualities. Also available are Lasco molded and woven brake linings in rolls; as well as molded segments and blocks for trucks, trailers and buses.

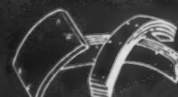


LASCO BRAKE PRODUCTS CORP., LTD.

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how do your service figures compare with these?

TYPE OF JOB	NUMBER OF CARS SERVICED PER MONTH			
	250	500	750	1000
BATTERY	146	292	438	584
STARTER	77	153	230	306
GENERATOR	136	271	407	542
CARBURETOR	145	290	435	580
FUEL PUMP	56	111	167	222
SPARK PLUG	65	129	194	258
VALVE-RING	53	106	159	212
COIL-CONDENSER	19	37	56	74
DISTRIBUTOR	120	239	359	478

SUN
makes it easier
for you

...to sell **ALL** the work the engine **NEEDS**

Shops using SUN Diagnosis Equipment and the SUN Diagnosis Program are doing more repair operations per car, making more profit per car, eliminating comebacks and making happy, steady customers.

The above figures show the amount of service work vehicles need—work which *should* be done. The figures are based on country-wide reports from small, medium and large shops using SUN Equipment.

With SUN Motor Testers, Distributor Testers and other SUN Diagnosis Equipment, thousands of shops are uncovering two to three times as many **NEEDED** repair operations per car as are usually found without such scientific equipment. Consequently these shops not only have larger labor and parts sales but eliminate guesswork and needless repairs and replacements. This means higher profits and better satisfied customers.

Tell us the number of vehicles you service per month. We will send you a more complete report on what you can expect in increased sales and profits from a sun Diagnosis Program. There is no obligation.



ELECTRIC CORPORATION 6353 AVONDALE AVENUE
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SUN Technical Training Schools in 16 cities. Night and Day Courses.

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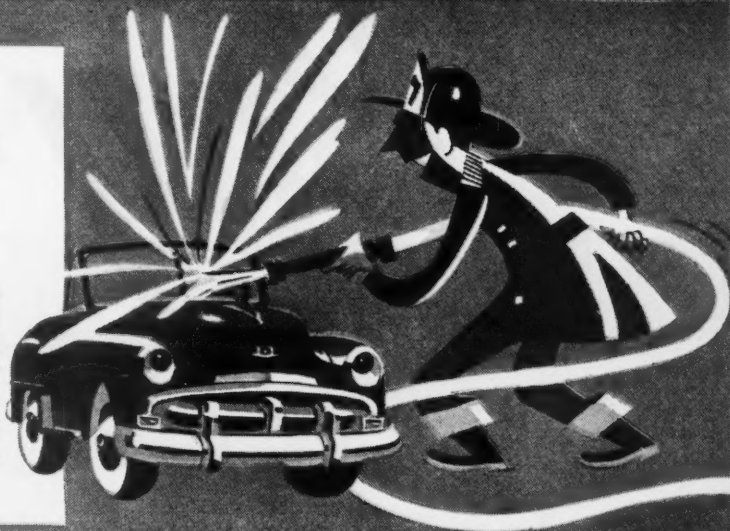
MOPAR



1.

KEEP THAT WINDSHIELD WET WHEN YOU TEST WIPERS

When testing windshield wipers for operating speed, cleaning action, length of stroke, or proper return to parking position, keep the windshield *wet*! Tests made by running the blades over the dry glass will not prove satisfactory. Furthermore, adjustments made from dry tests may put the wipers out of adjustment for rainy day operation.



August is MOPAR
safety-vision
Month!

2.

FOR A CLEARER VIEW, BE SURE TO USE MOPAR SAFETY-VISION PARTS

Genuine Chrysler Corporation Parts
for Plymouth, Dodge, De Soto, Chrysler
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You can rely on better visibility day and night with MoPar windshield wiper blades, sealed beam units and other related Safety-Vision parts and accessories. They're factory-engineered . . . factory-inspected . . . and supplied by Chrysler Motors Parts Corporation. That's proof positive of dependable performance, top quality and lasting satisfaction.

What's more, you can get all the MoPar parts and accessories you want *anytime*—from your nearest Plymouth, Dodge, De Soto, or Chrysler dealer and from many general service and repair shops.

DISPLAY THIS SIGN to let people know you recommend and install MoPar parts. For details, write Advertising Dept., Chrysler Motors Parts Corporation, Detroit 31, Michigan.



AUTO-LITE "STEELDUCTOR" SPARK PLUG WIRE HAS

"Buy Appeal"

**LOOK HOW AUTO-LITE WIRE AND
CABLE HELPS YOU SELL 4 WAYS**

Packaged to sell

... beautifully packaged in silver foil.
Sells on sight.

Meets every car need

... from battery cable to spark plug wire
—for every car and truck on the highway.

Colorful displays

... an ample supply of posters, counter
and window material.

Backed by promotion

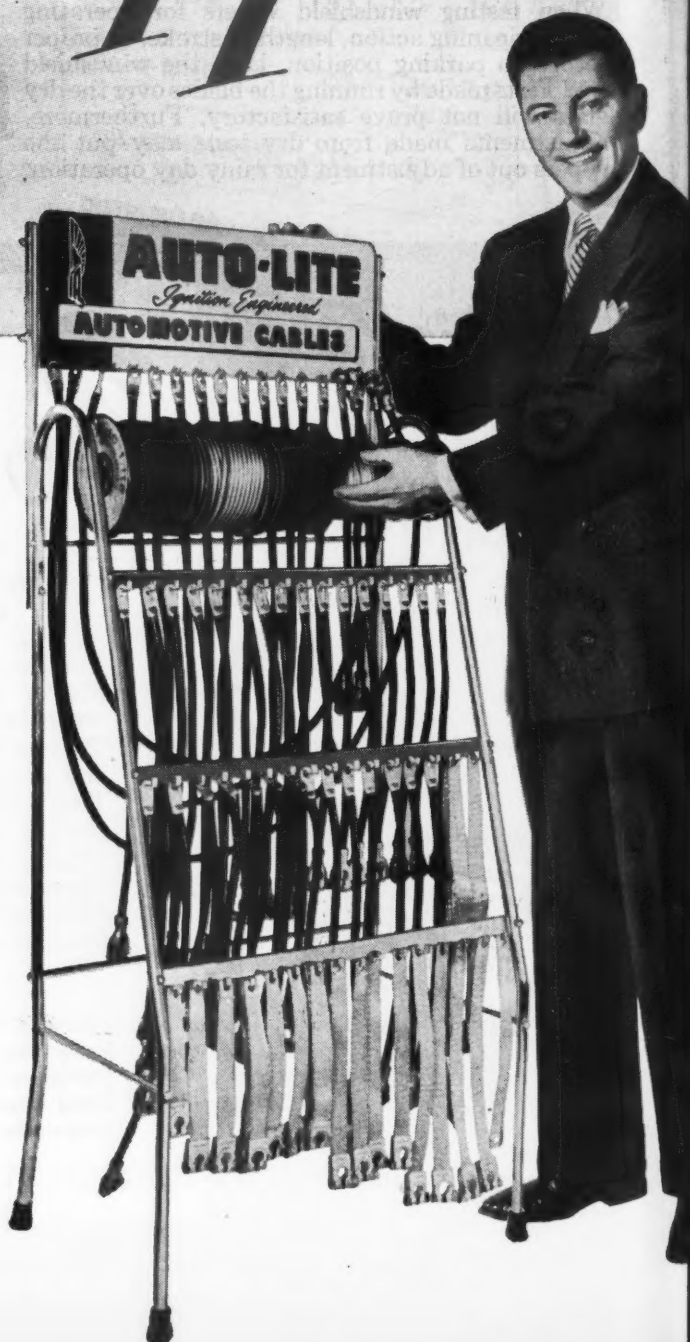
... the best advertised name in the auto-
motive after-market.

Check on this fast-moving line today.
See your jobber.

THE ELECTRIC AUTO-LITE COMPANY
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CUSTOMERS *like* THE
PRODUCT ...

YOU'LL *like* THE
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Feature these BEST SELLERS!

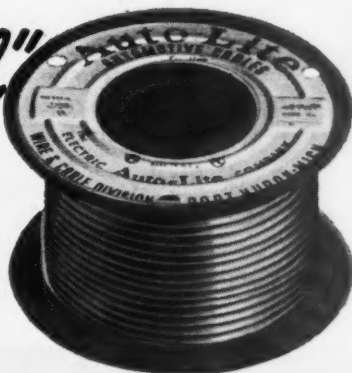
"Steelductor" Spark Plug Wire

Auto-Lite "Steelductor", a Silver-sheathed high tension ignition cable, employs a seven-strand conductor of Stainless Steel, instead of the conventional nineteen strands of copper wire. Gives remarkable improvements in performance when employed in shielded circuits.



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Highly resistant to attacks of heat and oil. Auto-Lite Silver-sheathed Flextrand primary wire permits easier stripping and soldering . . . gives long life . . . and is easy to install.



"Power Line" Battery Cable

Auto-Lite Battery Cable, complete with the new Power Line Terminal that resists corrosion . . . assures excellent contact . . . complete customer satisfaction.



AUTO-LITE

*Wire
and Cable*



WORLD

**GET
STARTED
with**

take advantage of



● Once you start using World Bestos brake lining you'll keep on using it. That's because World Bestos gives you top quality, perfect-fitting lining that's easy to install; dependable, long-wearing lining that assures complete customer satisfaction. Both are essential to a profitable brake lining business.

Get started with World Bestos NOW . . . and get absolutely free one or more of the fine premiums described on the opposite page. Only World Bestos offers Ace High Deals . . . for car dealers and independent repair shops!

Your World Bestos Jobber Can Supply All Your Brake Lining and Block Needs

Prescribed Friction Sets . . . for passenger cars, commercials, taxis, light and medium trucks. Full molded, highest quality lining engineered for each make and model vehicle.

Grid Lock Sets : : : top quality Wireback molded sets for all popular cars, commercials and trucks. A must for complete brake service.

Sets for Bonding . . . both Prescribed Friction and Grid Lock are available as undrilled, unchamfered, packaged sets to be used with World Bestos Pyro-bond Film. Unexcelled bonding results for passenger cars and trucks.

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Ask your local World Bestos Jobber about these deals . . .

Get it from your jobber

WORLD B

BESTOS

*Exclusive Ace-high deals for Car Dealers
and Independent Repair Shops*

A♠ Ace-high
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no. 1

Easy-Roll COMFORT CREEPER

given with each order for any 25 Sets of World Bestos Brake Lining

Famous Gi-Gr-Nite Creeper, featuring roller-caster assembly that pivots and rolls easily on the roughest floors. Extra long head rest, rail-free deck, fully shielded wheel housings. A regular \$8.75 value that's yours absolutely free of charge and postpaid anywhere in the U. S. with your order for any 25 sets of World Bestos Brake Lining.

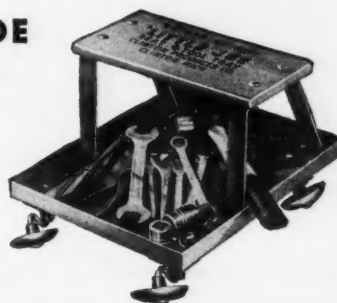


A♣ Ace-high
deal
no. 2

Famous "Gi-Gr-Nite" LITTLE JOE

given with each order for any 20 Sets of World Bestos Brake Lining

Handy combination Mechanic's Seat and Tool Tray lets you sit relaxed 12 inches above floor with every tool you need within easy reach. Easy-rolling, easy-pivoting roller assembly. A must for brake work! Regular \$7.65 value (tools not included) that's yours absolutely free of charge and postpaid anywhere in the U. S. upon receipt of your order for any 20 sets of World Bestos Brake Lining.



A♦ Ace-high
deal
no. 3

Personalized ZIPPO LIGHTER

given with each order for any 12 Sets of World Bestos Brake Lining

Handsome, windproof Zippo lighter . . . engraved with your exact signature inlaid in rich color. A man's lighter with a sure-fire, man-sized flame, guaranteed for life! This sturdy, good-looking Zippo (regular \$4.60 value) is yours absolutely free of charge and postpaid anywhere in the U. S. with your order of any 12 sets of World Bestos Brake Lining.



World Bestos "Ace-High Deals" feature
only the finest quality merchandise.

WORLD BESTOS, New Castle, Indiana

Please send me full information about World Bestos "Ace High Deals" for dealers and independent repair shops.

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WORLD BESTOS

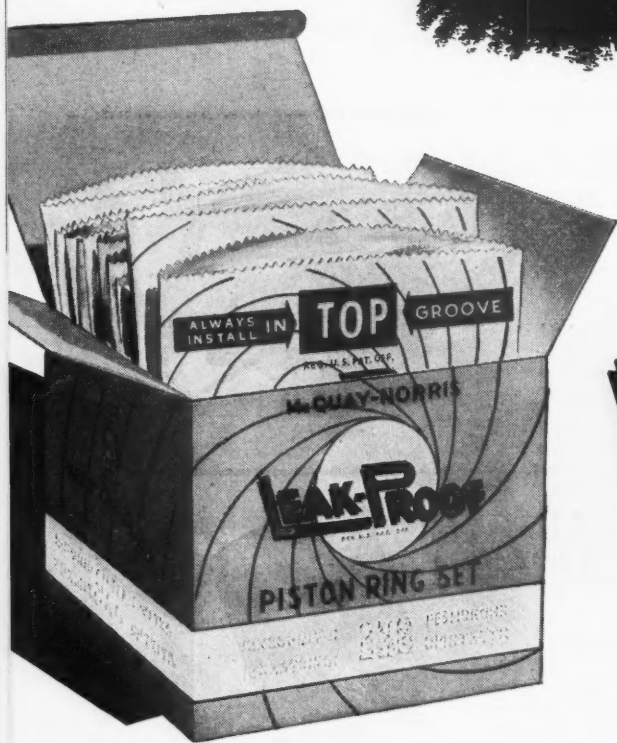
NEW CASTLE
INDIANA



More Trouble-Free at

ALGINIZING

A coating of natural bearing material
for quick seating and extra protection
against scuffing, wear and acid action.



**THESE LEAK-PROOF "LONGER"
ARE YOURS AT**

McQUAY-NORRIS

LEAK-PROOF

REG. U.S. PAT. OFF.

PISTON RINGS



**McQUAY-NORRIS MANUFACTURING CO.
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Miles No Extra Cost!

PHOSALLOY

Piston ring metal that assures high heat resistance and longer service.

**WEAR LIFE" FEATURES
NO EXTRA COST**



MADE FOR THE TOUGHIES!

THIS SET WILL OUTPERFORM
ANY OTHER PISTON RING SET
IN THE "HARD TO HOLD" JOBS
REGARDLESS OF KIND, DESIGN
OR PRICE.

CHROME CONTROL

WITH NEW "400" OIL RING

WHAT GOES ON!

Dealers are talking. Thousands have acted.
They've discovered this big, money-making fact
... it **PAYS** to

Switch to Exide

EXIDE, gives you more to sell—a bigger battery value for your customers' dollars. Exide supplies the program and the promotion that make sales climb. Exide provides the know-how to help you build a sound, profitable battery business.

A COMPLETE LINE with wide price range—ULTRA START...HYCAP...SURE-START...STARTEX.

135,179,740 Exide National Advertising messages in 1952...will help you do a real selling job right in your own area.

EXIDE SURE-START PROGRAM with time-saving tools and equipment.

SELLING AIDS that assure quick, profitable battery sales.

ATTENTION-WINNING DISPLAY MATERIAL

ACT TODAY...*Switch to
Exide*

THE ELECTRIC STORAGE BATTERY COMPANY, Philadelphia 2
Exide Batteries of Canada, Limited, Toronto

WHEN IT'S AN EXIDE... YOU START

ULTRA START has
SILVIUM

new grid alloy. Resists grid corrosion (caused by overcharging) ... contributing to longer battery life.

ULTRA START has
G. O. X.

new active material. Takes full advantage of a lower gravity solution ... thus keeps up battery capacity for a longer time and reduces standing losses.

ULTRA START has
PORMAX

new, practically indestructible separators—resist heat and acid, are flexible and tough, increase cold-weather starting ability.

ULTRA START...
New leader of the famous
Exide line



"EXIDE" "HYCAP" "STARTEX" "SILVIUM" "PORMAX" Reg. U.S. Pat. & T.M. Office
"ULTRA START" T.M. Reg. applied for




RAY-
RAY
- RAY

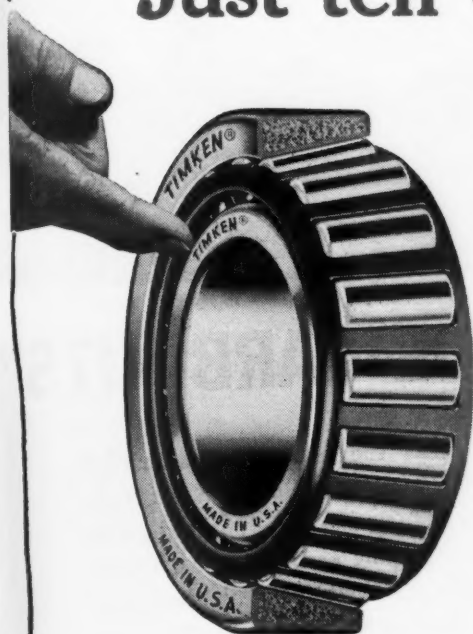
Want customers rooting for you?

You'll really score with customers when you let them know you use the best replacement parts. So when you install a new tapered roller bearing, be sure to point out the trade-mark "Timken". Car owners know it stands for top value.

RAY'S GARAGE



Just tell 'em it's "TIMKEN"®



LEADING manufacturers of automotive, agricultural and industrial equipment make Timken® bearings their first choice. That's because Timken bearings alone offer all these advantages: 1) advanced design, 2) special analysis Timken fine alloy steel, 3) precision manufacture, 4) rigid quality control.

When you replace a tapered roller bearing, make sure it's a Timken bearing and you'll know you're getting the best. Look for the trade-mark "Timken" on every bearing.

VALUABLE FREE BOOKLET! Send today for your copy of "Timken Tapered Roller Bearings—Their Care and Maintenance" to Dept. AM-8, The Timken Roller Bearing Company, Canton 6, Ohio. Cable address: "TIMROSCO".

TIMKEN

TAPERED
ROLLER
BEARINGS

TRADE-MARK REG. U. S. PAT. OFF.

NOT JUST A BALL ○ NOT JUST A ROLLER ◻ THE TIMKEN TAPERED ROLLER ◻ BEARING TAKES RADIAL AND THRUST —◻— LOADS OR ANY COMBINATION ☼



"MORE PARTS IN HYGRADE CARB KITS"

"I **use HYGRADE** carburetor kits in my rebuilding department because they contain *all* the parts I need to turn out a first-class rebuilt." So says J. R. Dutcher, Des Moines, Iowa tune-up specialist. The one wearable part that isn't replaced is just the part that breaks down and causes a kickback. So "J.R." insures his reputation with HYGRADE carb kits — they've got more parts.

"J.R." is one of the many top mechanics throughout the country boosting HYGRADE products—fuel filters, fuel pumps, fuel pump kits, and speedometer cables and casings. Try HYGRADE—you'll see why it's a nationally accepted line. Write HYGRADE PRODUCTS DIVISION, Standard Motor Products, Inc., 37-18 Northern Boulevard, Long Island City 1, New York.

HYGRADE FUEL PUMPS & KITS • CARBURETOR KITS



FUEL FILTERS • SPEEDOMETER CABLES & CASINGS

Posed for
PUROLATOR
by Bert Lahr, famous
comedian, star of
stage, screen, radio
and television.



"How's the filter business? You ASK!"

Bert's amazed. Amazed that anyone should ask! Amazed because business gets better and better every day.

Figure it this way: 9 out of 10 motorists buy when the dealer shows them a dirt-clogged filter.

And motorists—most of them will buy a Purolator Micronic* when they're told how

the element filters more dirt faster; leaves additives *in*, helps the oil do a better job.

And, finally, business is getting better and better, because Purolator's advertising is powerful . . . year-around . . . all-around—in magazines, at point-of-sale.

So—stock Purolator to sell every car that calls—Purolator—No. 1 with everyone!*

PUROLATOR
(ENGINEERED FOR EVERY MAKE OF CAR)

PUROLATOR PRODUCTS, INC.
Rahway, New Jersey and Toronto, Ontario, Canada
*Reg. U.S. Pat. Off.

MICRONIC OIL FILTER



Late-model cars and trucks operate at



That's why they need
Sealed Power
KromeX

FULL-FLOW RING SETS

**TOP COMPRESSION RING
HAS SOLID CHROME FACE**
factory-lapped to a light-tight finish

MD-50 STEEL OIL RING
HAS CHROME-FACED SIDE RAILS

The only ring with the FULL-FLOW SPRING

**Best for oil control even in
BADLY TAPERED**

OUT-OF-ROUND BORES



**All rings in KromeX Ring Sets are beveled or tapered
to thread-line contact for quick seating
and blow-by control.**



SEALED POWER CORPORATION, MUSKEGON, MICHIGAN

Sealed Power Piston Rings

BEST IN NEW CARS! BEST IN OLD CARS!

NEW Scene

NEWS DIGEST OF THE MONTH IN PICTURES AND FACT • • AUGUST 1952

... WE COVER THE AUTO FRONT ...

Earlier assumptions that the steel strike would cause delay in introduction of 1953 models may not materialize. Normally, any prolonged interruption of production merely lengthened out the current model run because of commitments for components. However, in the present situation consideration had been given to the possibility of a steel strike interruption. Also, the industry has ample capacity to step up output and build out its remaining model run as planned before the scheduled dates of new model announcement. Present indications are that Chrysler will be the first of the Big Three to offer 1953 models, possibly in October. General Motors also will start introducing its new lines in December, with Ford coming about the first of the year. Some of the independents also will offer model changes this fall, including the totally new Hudson light car. In general, it looks again as though the new model parade will extend from early fall until next spring.



Buick's Skylark

There is a growing interest in sports cars among automobile manufacturers. Buick has developed a sports convertible which it calls the Skylark, and which will be pretested to gauge public demand to see if it will be put into production. Built on a Roadmaster chassis, it has low rakish lines with down-swept doors, full cut-away fenders, chrome-plated wire wheels, and a faster slope on the trunk lid. In contrast to conventional sports cars, it has a rear seat. No price has been put on the vehicle, but it was indicated

that it would be retailed for approximately \$5000 when in production.

Air Conditioning in '53

Although air-conditioning units for passenger cars have been available for the past several years primarily as a dealer special option, General Motors is the first manufacturer to offer such units as a factory installed option on a production basis. C. E. Wilson, GM president, has announced that an air conditioning unit will be made available at extra cost on the 1953 Cadillac and Oldsmobile models. The units will be produced by Frigidaire and are basically the same in principle as cooling systems used in offices and on trains. A rotary compressor is mounted on and driven by the engine, with a sealed refrigeration unit mounted on a shelf in the trunk. Non-toxic Freon refrigerant is used and the unit is compact. A single control is used to regulate temperature.

Automotive Credit Takes Big Jump

Automobile installment credit increased by \$193 million during May, the largest jump for any class of credit, following lifting of consumer credit controls on May 7. In addition, it is estimated that a considerable portion of the \$163 million increase in installment loans was used to finance automobile purchases. Automobile dealers were greatly relieved when Congress removed from the latest Defense Production Act the Federal Reserve Board's power to reimpose credit controls.

Class A Ford Motor Co. stock is valued at \$200. per share, according to an inventory of the estate of Mrs. Clara B. Ford, widow of Henry Ford, filed in probate court at Detroit. Appraisal of the estate listed 63,260 shares of the stock at a value of \$12,652,000. Total value of the estate was appraised at \$18,794,861.

After Effects

On the whole, it appears clear that the replacement parts industry is going to weather the steel strike after-effects in reasonably good shape with no general breakdown in the parts supply pipe lines expected but some scrambling to keep alloy steel parts in the field to meet emergency needs.

Because the steel strike lasted much longer than anyone had expected, there seems little doubt that a very real shortage of new cars will develop, for the next few weeks at least. There has not yet been any indication, however, that there will be a runaway market. The more likely prospect is that dealers will realize more profit per deal for a while through lower trade-in values on used cars. At the same time, the used car market is gaining strength although here again prices are not expected to increase very much. Both new and used car dealers are experiencing some difficulty in getting enough good clean late model used cars to have adequate stocks to do business.

July production of new cars was extremely poor—about 160,000, the lowest since 1945. In August it well may be even worse. There is considerable difference of opinion as to just how long it will take for the industry to get back into volume production, but it will be three to four weeks at the earliest. Automobile manufacturers have gone heavily into conversion steel commitments and purchases of foreign steel, but even so the effects of the steel stoppage are going to be felt for a long time.

Stock Cars

With the revival of interest in stock car racing, it looks now as though some companies which hitherto had not been too much interested in that activity will be getting into the act. Up to now the field has been pretty well dominated by Hudson, which has consistently won most of the races, with Oldsmobile and Chrysler also contending. While some engineers and sales people contend that cars entered in such races are modified in many ways and do not represent

a true production line model, they nevertheless are being forced to admit the publicity gained may have a definite advantage for the



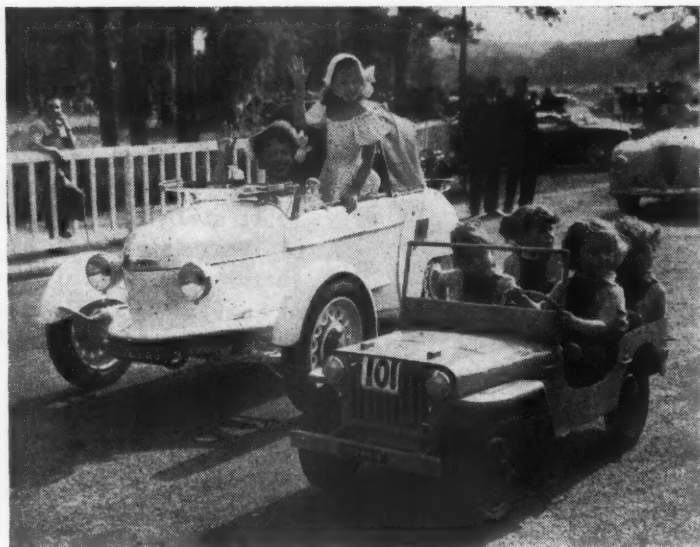
The Hudson Hornets of drivers Tim Flock, Buddy Shuman and Herb Thomas (L. to R.) were first, second and third in the annual Detroit 250-mile NASCAR stock car championship race June 29. The winning trio is being congratulated by N. K. VanDervee, Hudson vice-president in charge of sales (right).

manufacturer. Consequently, it is not at all unlikely that next year some of the other companies may cooperate with drivers in making necessary modifications in promoting their own make of car in stock races.

American "Sports"

Another related field of interest which seems to be on the upgrade is the sports car. Up to now, that area has been pretty much the province of foreign manufacturers, and American builders, impressed by the growing interest, are starting to take note. Nash was the first with its Nash-Healy, built in England with some of the components coming from this country. Buick now has "Skylark," a sports car built on a Roadmaster chassis with some important modifications in styling. If public acceptance indicates a sufficient demand, Buick probably will go into production with the Skylark to sell for around \$5000. Other companies also are known to be studying the field, particularly Packard, with its Pan-American model and Chrysler with its K-310.

Still another revival concerns the wire wheel which went out of vogue more than 20 years ago. Like the return of the spare tire to the rear exterior of the car, wire wheels again have taken on something of distinction. We have a reliable report that a large wheel



Baby Buggies . . .

These small-scale cars were among the entrants in a Competition for Automobile Elegance at the Bois de Boulogne in Paris. At left, Paulette Dubost, French movie actress, and her daughter, Christiane, present a one-horsepower car which has two tandem seats and a maximum speed of almost 50 mph. At right, Karine, Marie-Claude, Dominique and Marie-Annick Pourtot drive a miniature jeep which their father built for them.

company has an order for a sizeable number of chrome-plated wire wheels from two of the largest high-priced car builders. The wheels are to be offered as optional equipment.

New Models

There still is considerable speculation about changes in new models. A national magazine recently carried the story that Chevrolet will have a V-8 engine for its 1953 models. According to most reliable information, Chevrolet will not have a new engine for next year's models but will offer improvement in its current in-line 6, to give better performance. It also appears highly unlikely that Ford will be able to complete tooling for its new Ford and Mercury V-8's for 1953 models. Two new engines which are reasonably certain to come for 1953 are the Dodge and Buick overhead valve V-8's. Dodge is expected to retain its current "L" head 6 as an option and the new Buick engine will be confined to the Roadmaster, at least at the start of production.

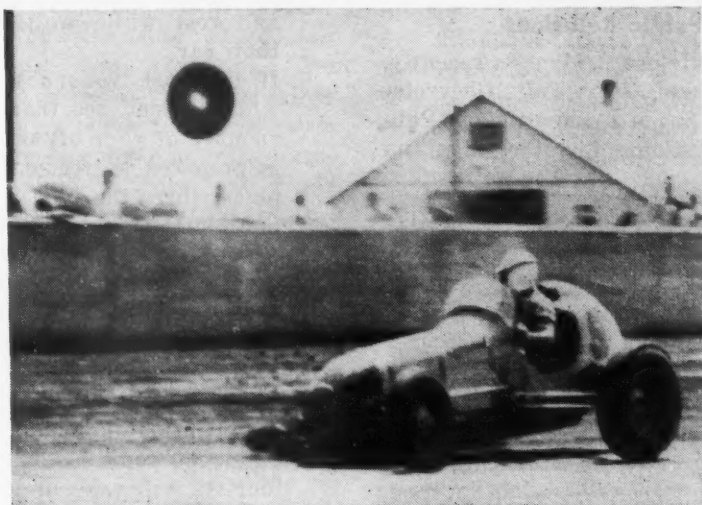
Other manufacturers are expected to stay with their current offerings in power plants for 1953. Hudson is expected to introduce its long awaited smaller car which is reported to have a new engine but there probably will be no



Hudson's convertible

major changes in the rest of the Hudson engine line. However, new styling is on the way for most of the General Motors line, Chrysler lines, and Studebaker.

There also are some changes in automatic transmissions coming up. It is reported that Chevrolet will make some modification in its Powerglide, possibly to include supplemental gearing, but whether it will be ready for 1953 models is not clear. Another possibility is that Chrysler, before too long, will be ready with its new automatic drive consisting of torque con-



Flying Saucer! . . .

Andy Linden of Van Nuys, Calif., loses his right front wheel on a warm-up run at the AAA opener of the Fairgrounds Speedway, here. Andy is shown fighting to control his mount on the track as he watches his wheel hit the concrete retaining wall. Linden was not injured.

verter combination with planetary gear set.

Allen Announces New Automotive Course

The Allen Electric and Equipment Company, Kalamazoo, Michigan, announces the development of an entirely new course of instruction in automotive electrical and engine performance diagnosis and correction.

The new Allen Course of Automotive Servicing will be available to mechanics throughout the U. S., and the classes will be conducted in modern Allen service centers or at approved facilities.

Upon completion of each phase of classroom work, all students will receive "on-the-car" training in a modern, completely equipped service shop. Every student will be given ample opportunity to perform each test and service operation, assuring that all alike receive specialized instruction.

Each student will receive three manuals—the 145-page new Allen textbook and copies of the latest Delco-Remy and Auto-Lite manuals—providing him with ready reference material in his everyday work. He will also be presented with a graduation certificate and lapel pin, attesting to his

ability as a specialist in automotive electrical and engine performance service.

The complete course is divided into two sections of six lessons each. The Electrical Section consists of the following lessons: 1. Electrical Dial-Chek, 2. Batteries, 3. Starters, 4. Generators, 5. Delco-Remy Regulators, 6. Auto-Lite Regulators. The Engine Performance Section consists of the following lessons: 7. Engine Performance Dial-Chek, 8. Ignition Circuit, Coils, and Condensers, 9. Distributor, 10. Vacuum and Compression, 11. Combustion and Fuel Systems, 12. Merchandising Automotive Service and Review Period.

Further details on the course may be obtained by writing Allen Electric and Equipment Company, Kalamazoo, Michigan, for descriptive folder.

Packard Power Steering

Packard is the latest company to enter the field with power steering, according to reliable reports. OPS has approved a wholesale price of \$185 for the unit, indicating that it will be offered soon, possibly on some 1952 models. It is understood that the power steering device will be supplied by Bendix.

Montana Style Grass Roots Public Relations

At Helena, Mont., recently, Paul Seese, Great Falls Chevrolet dealer, heads a committee on Public Relations for the Montana



"Give her a hand!"

Automobile Dealers Assn. The men serving with Mr. Seese wrote a bookful on grass roots public relations, high-spotting the ways to win friends by treating travelers thoughtfully.

"Go out of your way," said the dealers, "to take care of tourists and vacationers. Their time is limited, and in many cases they are traveling on schedule because of hotel reservations in the towns in which they intend to visit. The nice little things we can do will make a fine impression on this type of customer."

1. Take care of warranties and policy adjustments if the vehicle is in the warrant period, and let us no longer pass the buck and suggest to the tourist that he have some other dealer do this work.
2. Courteous treatment.
3. Do everything possible to handle their work in the shop along with your regular customers, so that they may lose as little time as possible.
4. See that the rest rooms are clean and wholesome, because in most instances these good people have no place else to go.
5. See that a place is provided—whether it be in the shop or

in the show room, to sit down and rest while waiting for their car.

6. If they ask your advice on where to eat, see that every member of your organization is prepared to recommend a place where the food is good and not too expensive.
7. Also be prepared to advise them in securing hotel or motel accommodations if they ask your assistance in this regard.
8. See that all members of your organization know how to explain the route which these tourists will take in leaving your town.
9. Place your organization in a position to tell them where to go to see places of interest or things of that nature in your town, of which you are proud.

The Montana dealers have developed a broader and more inclusive program—eleven points in all. (The above is but the first step and is reported because of its timeliness.) Serving with Mr. Seese are Frank Strong, Bozeman, Mon-

tana (Pontiac); Charles Cooley, Lewistown (Chevrolet); Lansing MacIntyre, Billings (Cadillac-Pontiac); George B. Schotte, Butte (Ford); Glayde Yoder, Sidney (Ford); William Olney, Missoula (Pontiac-Cadillac); Harry Hendrickson, Kalispell (Oldsmobile); Arnold Hannah, Shelby (Dodge); Clem Anderson, Helena (Oldsmobile); Prescott Boutelle, Miles City (Pontiac).

I.G.O. of Cal. Elects Officers

The following officers were recently elected by the Board of Directors of the Independent Garage Owners of California: President, C. G. Dixon, Santa Monica; First Vice President, Oliver Kieffer, Huntington Park; Second Vice President, Howard Eves, Pasadena; Secretary, E. C. Last, Alhambra; Treasurer, S. C. Ritchie, Glendale. State Directors are W. O. Cope, Pomona; Donald Head, Long Beach; Bruce Cameron, Bellflower; and W. A. Martin, Los Angeles.



Uttering the Evidence . . .

Certain conviction for motorists driving unsafe cars is the goal of the Cleveland Traffic department as they inaugurate the use of wire recorder in the traffic checks on the city's streets. The complete conversation of the violator and police are recorded on the spot for use in court as shown in the attached pictures. The microphone can be seen in the officer's hand as he questions drivers.

Mechanics Wages

Auto mechanics working for a dealer or garage and paid a percentage of the customer labor charge are in an incentive or piece-rate category of wage earners, Wage Stabilization Board has ruled.

WSB Resolution 100, issued July 10, clarifies the standing of mechanics by pointing out that they are not paid on a commission basis. In effect, Res. 100 interprets regulations placed in effect earlier by the agency.

It also describes standards to be used in establishing wages and refers to "percentage of customer labor charge" as a method of payment by which employes get a percentage of the cost to the customer of each automotive repair or service.

OPS Reduction

About 700 employes in the Office of Price Stabilization national office and some 5,450 in the field offices will have to be released to keep OPS within its new budget. This means the agency will have to get along with about 5,850 workers, instead of the 12,000 who had been hired to determine, make public, and enforce pricing policies.

In those cities where OPS has both a regional and a district office, staffs are being reduced and offices are being combined. The national office in Washington is undergoing some changes, also. There is no longer a Transportation, Public Utilities, and Fuels Division. Transportation and fuels have been placed in separate divisions, and public utilities branch was dropped.

Employee reductions will be a "big handicap" in the operation of the national price control program, in the opinion of Price Stabilizer Ellis Arnall. Background of the cutbacks is the restricted amount of funds available for this work. OPS can spend, up to next May 1, \$37 million—a substantial sum, but less than two-thirds of the \$62 million the agency had hoped to get.

Gas Turbine Car

The world's first gas-turbine car, built by the British Rover Company, recently streaked across the Jabbeke motorway between Ostend and Ghent at 152.691 miles an hour. The drivers were 27 year old Spencer King and his cousin, Peter Wilks, aged 29, both of the Rover Company.

Officially timed over the flying kilometer and mile and the standing kilometer and mile, the car averaged 151.965 m.p.h. for the flying kilometer and 151.196 m.p.h. for the flying mile. The two-day test was not intended to set up or break records since no records for gas-turbine cars exist.

Austin Expands

Emphasizing the current expansion program which The Austin Motor Company, has undertaken



C. R. Melton

in this country, J. Dudley, Vice-President in charge of Austin operations in the United States, announced the appointment of C. R. Melton as General Sales Manager and J. K. Clowes as West Coast Manager, and at the same time stated that the Austin field force in the United States will be considerably enlarged so that the company can work more closely with dealers and expand the present dealer organization.

Car Makers May Adopt Tubeless Tire in '53

According to a report from the tire industry, there is a good possibility that at least one automobile manufacturer may adopt tubeless tires as standard equipment on 1953 models. Three of the largest tire builders have such tubeless tires on test with passenger car builders and if they prove satisfactory it may be possible that within two or three years they may become standard equipment.



Dragged from the Drink . . .

Attracting widespread interest in the Ohio River, near Golconda, these days is the sight of a partially-submerged barge lying crosswise the channel bearing approximately 100 new cars which sank last winter when some 50 cars slid off the ice-covered top deck when the load of cars shifted during an ice storm. Aside from bumps and scratches the cars are said to be in excellent condition despite their 6-month stay beneath the water.

1952 New Passenger Car Registrations by Makes by States*

STATE AND MONTH	Buick	Cadillac	Chevrolet	Chrysler	Crosley	De Soto	Dodge	Ford	Henry J	Hudson	Kaiser	Lincoln	Mercury	Nash	Oldsmobile	Packard	Plymouth	Pontiac	Studebaker	Willlys	All Others	Total		
Alabama..... May	359	56	1338	100		55	297	991	79	82	24	38	214	122	261	73	602	352	193	61	4	5,301		
May Mos.	1339	280	4897	429	10	277	1022	3600	272	297	140	137	804	468	938	234	2277	1241	862	212	31	19,747		
Arizona..... May	140	33	381	58	2	29	81	318	48	19	15	135	47	93	29	163	98	104	16	20	1	1,875		
May Mos.	641	124	1339	204	15	134	349	1231	123	171	53	41	434	164	375	125	617	470	422	77	85	7,194		
Arkansas..... May	148	36	598	49	1	55	196	473	35	37	21	10	99	70	101	140	1080	850	569	127	19	13,013		
May Mos.	945	178	3004	256	13	252	747	2379	150	142	117	61	537	377	550	644	4495	2619	2114	386	1112	41,120		
California..... May	2521	999	7562	1233	12	1077	2552	5508	250	1019	393	359	2299	1807	2159	2221	15150	8464	7029	1256	3834	143,640		
May Mos.	9705	3724	27780	4732	59	3687	7165	22276	594	3193	1116	947	7880	5125	7703	2221	15150	8464	7029	1256	3834	143,640		
Colorado..... May	288	63	563	123	7	52	146	538	12	79	5	29	147	119	180	38	348	192	109	42	8	3,088		
May Mos.	1328	276	2655	506	29	262	683	2462	37	402	66	118	684	473	784	189	1622	860	572	166	57	14,122		
Connecticut..... May	431	166	1170	246	8	156	593	954	150	163	100	65	295	269	428	132	631	441	259	106	105	6,988		
May Mos.	1846	583	4823	848	24	586	1840	3964	346	590	344	187	1129	875	1620	580	2651	1578	1157	274	343	26,158		
Delaware..... May	75	23	202	22	2	19	79	229	15	21	7	3	41	35	59	18	101	57	65	6	6	1,085		
May Mos.	380	97	1009	108	8	82	287	942	56	95	48	25	185	142	283	64	456	271	335	19	27	4,829		
Dist. of Col. May	120	44	417	53		20	147	287	21	30	10	11	63	36	115	38	360	143	46	8	10	1,979		
May Mos.	520	208	1808	260	2	143	620	1209	83	148	38	49	254	180	495	168	1874	584	271	50	58	9,020		
Florida..... May	593	152	1371	199	25	109	553	1070	161	85	47	84	289	274	370	136	896	384	448	109	90	7,045		
May Mos.	2602	732	6351	955	152	535	2137	5221	539	442	255	301	1590	1049	1740	1637	634	3481	1948	1349	415	684	32,979	
Georgia..... May	761	154	2535	189	8	106	531	1961	122	95	66	64	438	107	527	128	856	746	353	90	40	9,940		
May Mos.	2539	481	7342	689	24	427	1810	5786	391	350	223	191	1466	607	1638	403	3326	2326	1401	242	119	31,781		
Idaho..... May	169	35	361	42		31	104	278	11	76	33	11	114	73	77	32	173	93	100	39	4	1,856		
May Mos.	650	131	1418	179		145	359	1124	37	255	108	45	442	268	371	139	672	399	466	120	26	7,374		
Illinois..... May	2318	647	5310	761	21	678	1901	4425	173	941	216	184	1303	1224	1427	446	3131	1558	905	132	39	27,750		
May Mos.	10721	2738	23961	3747	110	3174	7911	20080	534	3333	1039	727	687	558	729	230	1602	956	953	148	19	15,296		
Indiana..... May	1043	251	3254	395	18	356	896	2697	153	284	154	66	616	1782	2406	731	5683	3205	3666	344	48	51,547		
May Mos.	3685	816	11097	1426	43	1167	2769	8509	396	1043	528	249	68	558	729	230	1602	956	953	148	19	15,296		
Iowa..... May	511	120	1824	201	1	143	467	1462	49	93	52	33	240	138	276	276	334	101	838	451	295	36	5,760	
May Mos.	2145	479	7247	966	6	562	1746	5802	130	332	240	138	335	309	352	154	739	438	253	46	8	7,672		
Kansas..... May	564	122	1629	198	7	123	422	1567	81	204	63	38	38	120	1043	1025	1236	424	261	1432	1053	133	16	24,955
May Mos.	1896	362	5328	685	20	467	1403	4443	299	670	355	120	204	209	261	66	547	311	214	49	8	5,083		
Kentucky..... May	350	65	1185	124	3	62	390	918	45	78	30	13	58	739	823	1080	291	3220	1281	1022	203	42	21,019	
May Mos.	1449	272	4859	555	13	312	1350	3744	162	311	133	58	204	209	261	66	547	311	214	49	8	5,083		
Louisiana..... May	320	67	1329	137	10	106	295	947	66	48	56	24	189	148	226	104	677	378	258	47	13	5,445		
May Mos.	1337	275	5108	573	29	482	1219	3841	207	181	214	118	796	621	1016	380	2491	1492	1127	180	56	21,683		
Maine..... May	142	29	451	51	5	48	126	325	44	45	23	14	73	63	112	21	206	101	78	37	10	2,004		
May Mos.	461	109	1580	175	14	160	394	1125	123	132	56	31	223	231	287	96	653	395	197	44	28	5,918		
Maryland..... May	372	81	1252	148	2	120	394	1022	144	178	265	133	1107	948	1334	458	3283	1565	1087	184	108	27,581		
May Mos.	1679	357	6235	791	14	614	1542	4767	222	225	110	83	498	571	856	176	1647	828	472	107	106	12,880		
Mass..... May	946	214	2129	332	25	383	1052	1796	533	803	278	264	1841	1789	3343	706	6238	3135	2060	351	418	48,686		
May Mos.	3345	832	9165	1428	80	1419	3243	7315	210	409	253	215	971	926	1424	380	2660	2100	632	129	32	27,804		
Michigan..... May	2275	688	9768	583	14	516	1596	5855	210	481	1066	778	4621	3428	6466	1514	11008	8802	3223	476	106	117,469		
May Mos.	9421	3263	27035	2494	42	1949	5745	23600	710	1821	1066	778	4621	3428	6466	1514	11008	8802	3223	476	106	117,469		
Minnesota..... May	555	137	1835	213	1	116	406	1005	54	133	86	31	253	283	367	141	828	491	426	62	21	8,044		
May Mos.	3039	607	9534	1248	5	907	2637	6853	206	499	363	140	1396	1024	2116	666	4587	2413	2071	203	48	40,062		
Mississippi..... May	284	48	860	65	4	43	202	871	49	31	20	20	143	101	148	45	434	226	168	34	15	4,360		
May Mos.	1137	213	3429	356	12	206	700	2563	176	138	108	68	595	348	634	204	1675	873	703	114	16	14,267		
Missouri..... May	606	131	2156	228	6	182	504	1733	82	94	59	44	385	421	375	159	1048	482	256	48	11	9,010		
May Mos.	2908	634	9812	1078	25	953	2087	7723	223	522	257	178	1681	1859	1838	664	5100	2273	1463	187	51	41,476		
Montana..... May	137	28	354	46	2	28	94	292	8	48	16	10	76	45	105	18	154	82	81	32	1	1,657		
May Mos.	614	140	1630	211	4	144	397	1238	39	214	60	42	354	150	461	101	714	391	373	123	5	7,405		
Nebraska..... May	352	75	796	125	3	64	202	983	25	45	28	30	181	154	215	47	433	269	166	31	2	4,225		
May Mos.	1499	301	3546	561	11	286	767	3574	69	210	125	92	719	470	872	205	1892	1144	751	134	7	17,255		
Nevada..... May	44	13	94	24		17	52	61	1	13	2	5	30	4	36	20	62	34	49	8	2	571		
May Mos.	172	61	421	102	3	52	145	279	5	43	6	12	125	8	122	70	226	116	142	20	16	2,146		
New Hampshire..... May	88	18	298	29	1	27	114	210	40	14	22	26	7	41	64	76	23	156	105	60	31	10	1,486	
May Mos.	465	82	1485	168	10	120	399	958	104	176	144	55	219	301	353	93	673	516	319	120	88	6,849		
New Jersey..... May	896	315	2463	435	16	313	980	1831	190	299	158	95	633	431	655	289	1305	877	488	162	101	12,832		
May Mos.	4714	1367	11817	2131	57	1534	3920	9580	553	1437	682	344	2901	1692	3358	1384	6166	4233	2986	531	480	61,497		
New Mexico..... May	127	23	292	33	7	28	107	265	7	33	7	9	94	51	46	30	176	100	88	28	3	1,584		
May Mos.	595	108	1245	185	20	122	358	965	21	119	24	48	364	183	303	117	671	377	419	88	32	6,580		
New York..... May	3078	940	6914	1280	33	1239	3390	5064	503	876	469	276	1635	1551	2440	800	4058	2377	1466	404	324	39,119		
May Mos.	11681	3637	25028	4933	145	4598	10436	19589	1418	2971	1773	969	5832	4543	8496	2918	14955	9602	5314	1421	1561	140,810		
North Carolina..... May	670	120	1577	155	10	125	408	1124	97	93	53	32	365	145	356	116	744	538	248	80	24	8,980		
May Mos.	2883	533	7213	675	32	590	1631	5905	384	41														

Chilton's MOTOR AGE

An EDITORIAL

How to Treat a Stranger



THIS is the season for them—strangers. But can you picture a man in a jam? He's a stranger in your town and his car has broken down. He's on vacation but never expected car trouble. He's lost. His kids are yiping and it's late in the day.

Just think of how much satisfaction and relief you could give to a guy like that; By confident assurance that you can help him; By courteous treatment; By finding some place for the family to sit and wait while his car is being repaired; By fair profit charging.

Or, if it's late at night and the poor

fellow needs somebody to tell him (not where to go) but how to get to someplace that is just around the turn on the next highway. It's duck soup for you and your assistants, but to a stranger it's strictly blind flying.

What do we accomplish by helping strangers? There's no clue in the Flat Rate Manual. You can make just as much or more on jobs for your regular customers. You can't eat or bank a sincere "thank you." But you can never outlive the reputation of being a friend to a stranger.

Frank P. Tighe

EDITOR

Making Clutch Work Profitable

An essential in clutch work is proper diagnosis. It will save time and cut down on comebacks

by Jack Montgomery
Technical Editor

COME-BACKS are costly, in clutch work as in any other service that is performed on a car. When a customer brings his car to a shop to have some difficulty straightened out, such as a chattering clutch, vibration or whatever the case may be, initial diagnosis on the part of the shop is most important. The me-

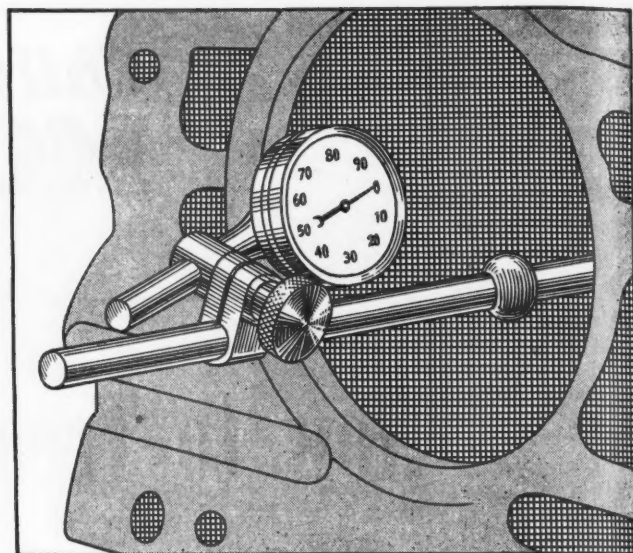


Fig. 1. Using a dial gage to check clutch housing runout.

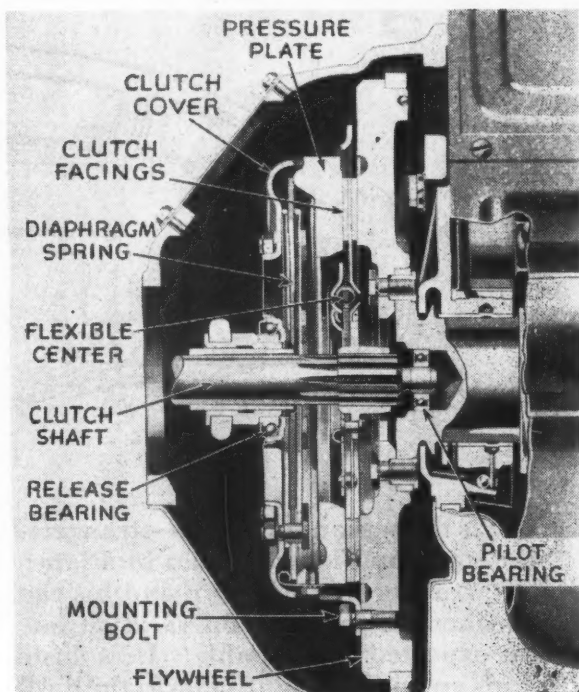


Fig. 2. Cutaway view of the clutch and related parts.

chanic should consider every possible cause of the trouble so that he can take direct steps to correct it. That's how a good mechanic makes money for the shop. With proper diagnosis, he'll get the job done right the first time and avoid the chance of having to do the job over. That's how he can eliminate unnecessary expense.

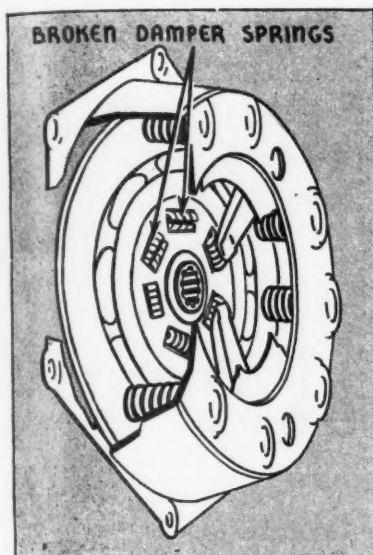


Fig. 3. View of broken damper springs in the clutch hub.

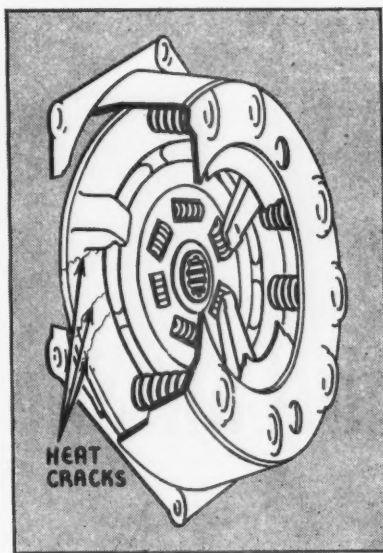


Fig. 4. Excessive heat caused the cracks in this pressure plate.

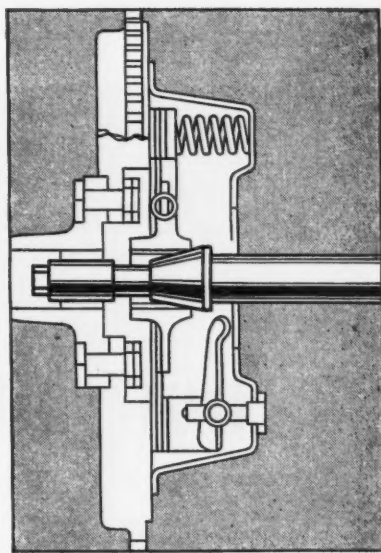


Fig. 5. Aligning the clutch hub before installing the transmission.

Using the proper methods, materials and equipment will help servicemen to make money on clutch work.

The following paragraphs will be helpful in the initial phase of clutch work—diagnosis. The complaints may be broken down into the following groups:

Dragging

Dragging clutches may be caused by oil, grease, dirt or foreign matter getting on the plate; clutch adjustment being too tight; clutch pedal improperly adjusted; pilot bearing or bushing badly worn or frozen to shaft; clutch plate warped or facing worn or torn; pressure plate warped, cracked or grooved; pressure plate springs weak or broken; misalignment between the transmission or flywheel housing; motor running too fast at idle speed.

Grabbing

Imperfect alignment; clutch plate or pressure plate badly warped, worn, or otherwise damaged; pressure plate levers, release lever or bearing binding or sticking; clutch pedal sticking; clutch facings oily or greasy.

Slipping

Facings on clutch worn badly; clutch adjustment faulty; pressure springs weak

(Continued on page 118)

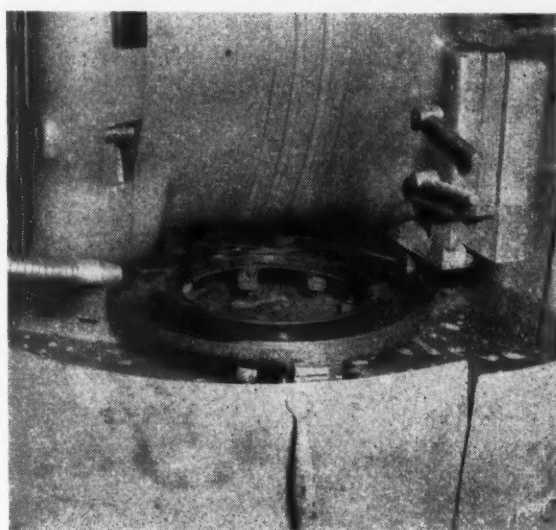
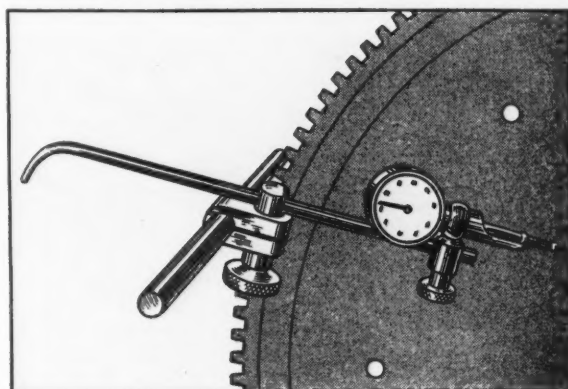


Fig. 6. Reconditioning a grooved pressure plate.

Fig. 7. A dial gage in position for checking flywheel runout.



How Much Can She Take?

THERE are a number of good reasons why automobile bodies are capable of standing up under many years and many thousands of miles of service. One of the important reasons is the extensive research and testing programs which are carried out by each of the car factories. Besides the mechanical factors, every-

thing from foam-rubber seat cushions to door lock mechanisms are given tests which simulate years of actual use.

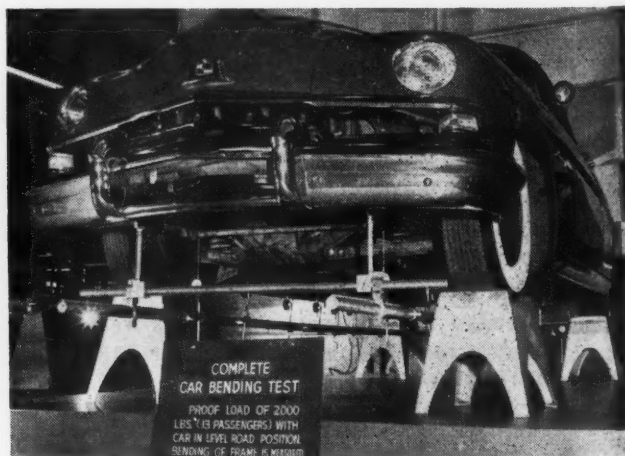
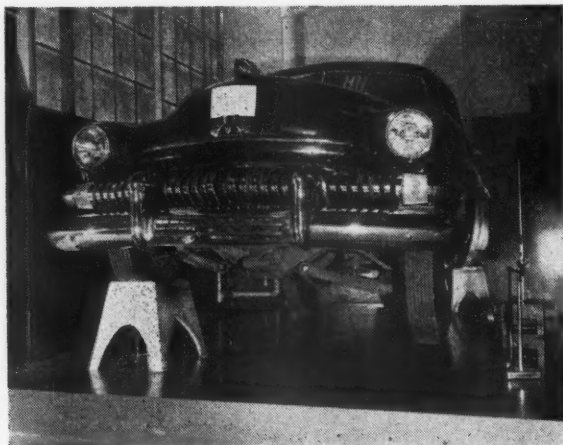
Illustrated here are some of the tests used by Ford Motor Company to find possible weak points in their cars. This is why the term "lemon" is becoming extinct in the automobile industry.



Left. Here's the "drop" test. The car is supported by its suspension in the raised position and dropped from a predetermined height. It supplies a simple means of applying a single impact to determine the affect on any part of the car.

Lower left. The complete car twist test. A car with a normal passenger and luggage load is supported on diagonally opposite wheels. The deflection is measured to determine the cars torsional rigidity.

Below. The complete car bending test. Here the car is supported on four pedestals, one under each wheel. 2,000 pounds of weight is put in the car to see how much the frame bends. This bending condition might occur when the car hits a dip with both front wheels.





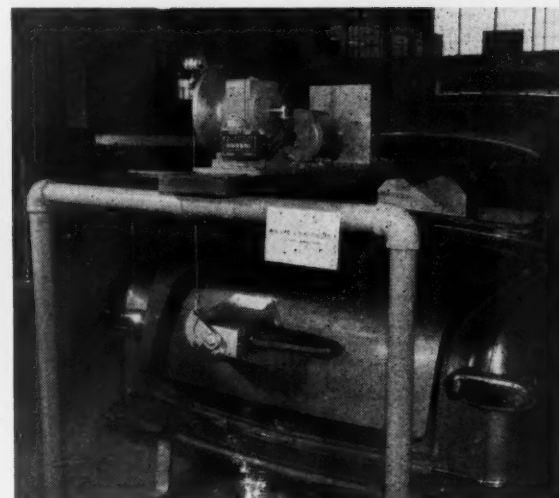
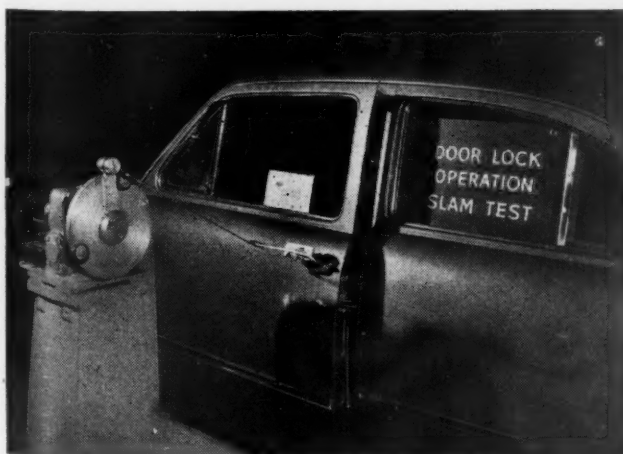
Above. Testing the seat frame structure under static load. A plywood platform is used to distribute the vertical load over the seat cushion springs, while concentrated horizontal loads are applied to the seat back at each of the three passenger positions.

Upper right. Seat cushions are tested by this dummy buttocks which simulates the weight of an average person supported by the cushion. The height of the drop and the number of impacts are recorded on a graph, and fatigue of the material is noted.

Right. Life of a shock absorber can be checked in this special machine. The test is conducted using a variable-speed-variable-stroke stroking machine which handles two units at once. Results of this test help to develop new shock absorber designs.

Lower right. The deck lid slam test is similar to the door lock test. Periodically, production locks and latches are tested for condition, data from which helps to design more satisfactory body parts.

Below. On this test, the door lock is unlatched, opened and then slammed closed. The results are used to develop door latching mechanisms that will insure satisfactory service as well as safety over long periods of time. Other tests are made to check the effects of lubricants, dust and water.





Tune-Up on the MG

Here's some valuable service information on this
British-made, 4-cylinder, overhead valve engine

ONE of the most popular and famous foreign cars in the U. S. is the British MG. Since World War II, thousands of these midget roadsters have been imported for purchase by the sports-minded motorist. MG owners usually have a standard American family car, so these two-car families are good prospective customers for shops which offer service on the foreign makes. Satisfy your customer with the MG and you'll also get his service work on the family car.

The MG owner is an automobile enthusiast, so he wants peak performance from the 76.3 cu in. engine. Unless a powerplant of this size (its 4 cylinders develop 54 hp at 5200 rpm) is tuned accurately, it will fall short on top performance and the owner will notice it at once.

The following tips on tuning the MG will help to deliver full horsepower and rpm from this engine. The illustrations are of the TD model, the most recent one of the MG family, but the same information applies to the TC, which is the pre-1950 series with the wire wheels and

by **Arthur H. Nellen, Jr.**
Service Editor

I-beam front suspension.

For easy access to the engine, prop the hood on the tool box lid. Remove and test the plugs. If the testing machine indicates that the plugs are weak, they should be replaced. If the plugs

are in good condition, clean them with a sand blasting machine and set the gaps to .022 in.

While the plugs are out, check the compression pressure. The cylinders should not vary more than five pounds. Recommended pressure is 120 psi. If one or more cylinders reads low, it indicates that the engine needs valve work, rings or both.

Clean the distributor rotor and the inside of the cap with carbon tetrachloride. Examine the rotor and points carefully, and if there is any evidence of pitting or uneven wear, replace necessary parts. It's advisable to replace the condenser as well, as the cost is nominal and it's good insurance for trouble-free driving. Point gap should be .012 in. Put a few drops of machine oil on the oiling hole, accessible by

(Continued on page 94)

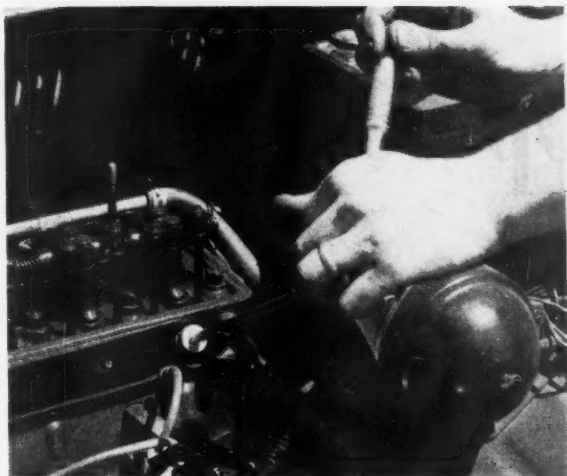


Fig. 1. Removing the plugs, using a Whitworth socket. Notice the compactness of the MG engine.



Fig. 2. Checking the distributor point gap. Adjustment is made in the same way as on a domestic car.

Fig. 3. With the dome off, and the damping piston removed, the carburetor looks like this. Note the long needle.

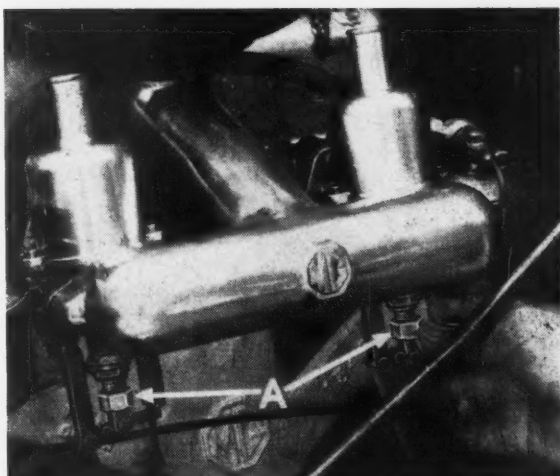
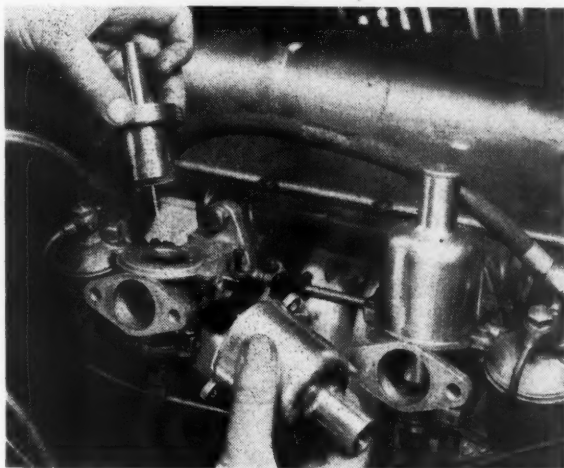


Fig. 4. Adjusting the carburetors. Mixture adjustment is made by turning the nuts shown at "A".

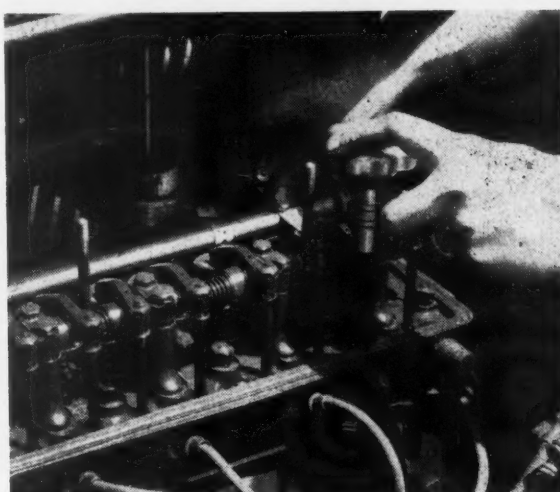
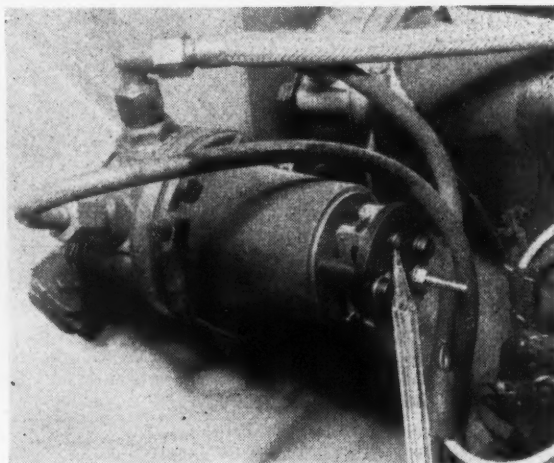


Fig. 5. Adjusting the tappets is done with engine warm, not running. Clearance from .019 to .020 in.

Fig. 6. This is the electric fuel pump. The pencil points to the contact points, which should be set to .030 in.





Pop Sends Larry t

THE summer in Glenrock had been undeniably hot, and Pop O'Neill's Repair Shop was by no means the coolest place in town. Facing southwest it gave the afternoon sun full opportunity to shine in through the big plate glass window and the broad drive-in doors. Business had been good—almost too good Larry Tait and Tom Winters sometimes thought as they dreamed of their vacations postponed until Fall. And when young Tommy filled up the gas tanks of customers happily on their way to a cool afternoon at the beach, he gazed with unabashed longing as they rolled away. But he kept his thoughts and his dreams to himself.

Larry was a character of a different stripe. He didn't have many thoughts that he wanted to keep private and his dreams could best be expressed in gripes. He griped about the weather. He griped about the dirty work and the tough jobs he got. He griped about the shop. He griped about the fate that had made him a mechanic. And he griped about losing the fat which he had griped about putting on in the winter. But he worked. With all his faults Larry was a loyal worker and a good mechanic.

About eleven-thirty, with the temperature already in the high nineties, Pop O'Neill answered the telephone. Then he ambled into the back room where Tommy was cleaning

by Charles M. Kenyon
Managing Editor

It seemed like an ideal job to Larry—a few hours at the beach on an easy job, but before the day was over, it was more than the sun that had him burning



Pop O'Neill

to the Shore

"What do you mean 'charge'?" the man asked, suddenly interested. "That was a new battery just last week."

a carburetor and Larry was reassembling the rear end for Ed Bragger's dump truck.

"Hey, Tommy," Pop called cheerfully. "Got a nice trip for you. Fellow just phoned from down at Long's Beach. His battery's dead an' he's due back in town. Could you go out an' get him started?"

"Oh, boy," shouted Tommy. "Could I!"

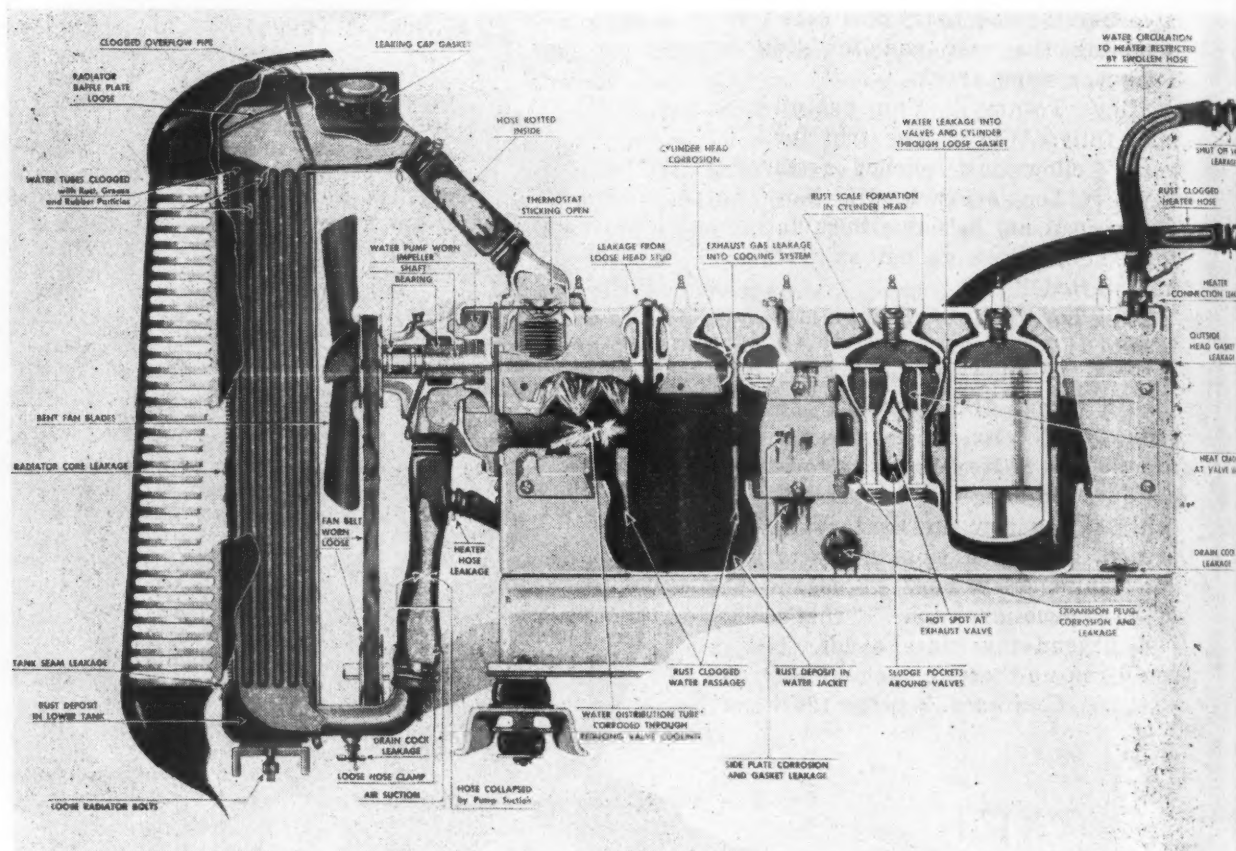
Larry dropped the ring gear with a clang. "Dog gone it," he said. "Who gets all the breaks around here?" He left the rhetorical question dangling, for he suddenly saw a new and better approach, one much more likely to get results. "Say, Pop," he began in an unemotional tone. "That's just beyond my place a bit. I could run up there for you on my

(Continued on page 126)





Summer Service for



Cutaway of a typical cooling system showing where troubles could develop.

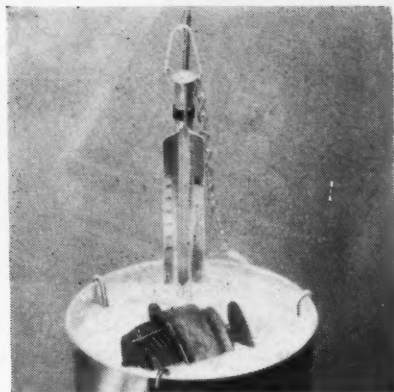
Overheating can be very costly. Any jobs that come in for cooling system trouble should be handled carefully. Here are some tips on what to look for

by Jack Montgomery, Technical Editor

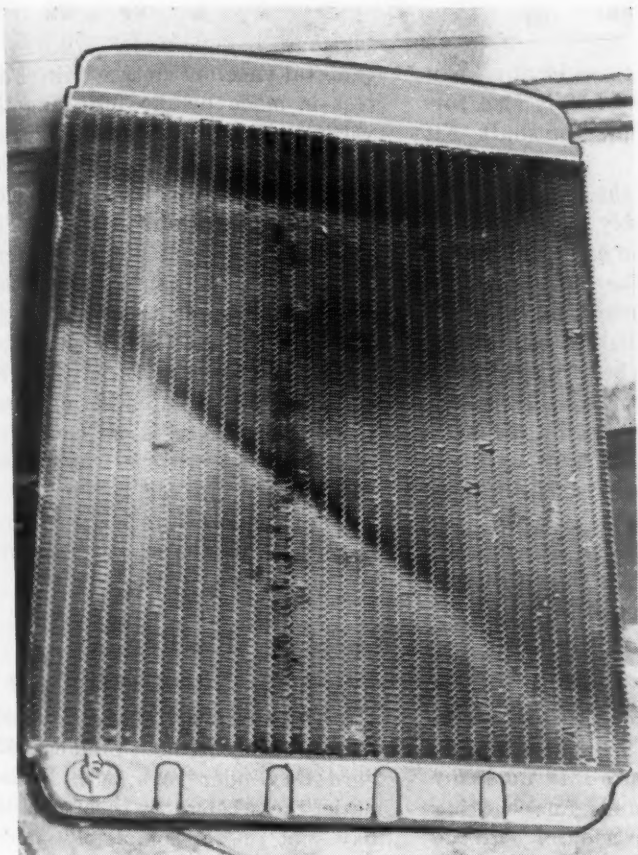
THE requirements of modern automotive engines and the severe conditions under which they are often operated, make it necessary that the cooling system be maintained as closely as possible to maximum efficiency at all times.

To keep the cooling system in first class condition and in the best working order requires a most careful attention and periodic preventive maintenance services. Engine and vibra-

r Cooling Systems



Method of testing a thermostat operation after removal from the car.



A porous core with bent fins. It needs replacement.

tion and road shocks put a strain on all radiator seams and joints that may lead to leakage and breakage, particularly in the water tubes and tanks. Neglect of a small leak usually results in an excessive leak finally causing clogging and overheating.

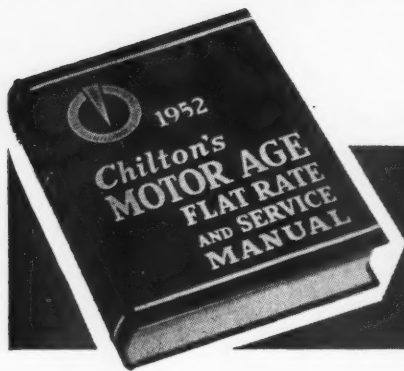
The primary function of the radiator is to transfer heat efficiently from the cooling to the air. This is not possible without clean straight air fins and unobstructed passages. Flying

dust, sand, grass and leaves and other debris may clog the air passages in a very short time. Therefore it is most essential that these be blown out with compressed air and if any of the fins are bent or mutilated in any way they should be straightened. Leaks are more common at the radiator hoses than anywhere else in the cooling system. Engine vibration has a tendency to wear and loosen rubber connections. The hose itself has a limited service life. Heat and water cause the hose to swell, harden, crack and rot.

Deterioration of the hose usually takes place from the inside more rapidly so that outside inspection alone is not entirely dependable. Hardening of the hose increases the difficulty of keeping connections leak proof and sometimes they are responsible for leaks around the necks of the radiator outlets. Hose failures may result not only in leakage but may also cause restriction in the cooling circulation

through clogging or collapsing. Rubber particles from a rotted hose lining will clog the radiator water tubes and are very difficult to remove. Rotted hose may break open without warning and cause a sudden surge of water. In addition to the usual radiator hose, some vehicles have other cooling hoses and tubes such as by-pass heater hose and over-flow tank tubes. Frequent inspections of hoses

(Continued on page 125)



Chilton's MOTOR AGE Flat Rate and Service Manual

S e r v i c e S u g g e s t i o n s

The information presented here has been compiled from the Factory Service Bulletin, as an additional service of Chilton's Motor Age Flat Rate and Service Manual Department.

Selected by William H. Lutton
Assistant Editor
Chilton's Motor Age Flat Rate and
Service Manual

Preventing Water Accumulation in Front Spring Seats

To prevent a condition where water accumulates in the upper front coil spring seats on 1952 Nash cars, rubber plugs have been installed in the locating holes in the wheelhouse panel above provided in the seat.

On cars built prior to the above change in production, a $\frac{1}{4}$ in. hole can be drilled approximately $\frac{1}{8}$ in. above the bottom of the seat toward the inside of the car. Suitable rubber fasteners should be installed with a light application of rubber cement in the locating holes of the wheelhouse panel.

Above change in production procedure effective at Serial #R-660351 in the Ambassador Series, and at K-524249 in the Statesman Series.

Studebaker V8 Rocker Arm Interchangeability

As a result of the revision of the camshaft, numerous changes have been made in the related parts so as to assure complete interchangeability in servicing all Commander V8 engines regardless of the type of camshaft in the engine.

Adjusting screw, Part #532161,

is now issued for use in any Commander V8 engine and is also furnished in the new camshaft Kit #532178.

Besides that, the Rocker Arm-and-Screw assembly Part #532177 can also be used in any Commander V8 engine. At the moment, these new assemblies may have a prick punch mark on the flat side of the adjusting screw boss which indicates that the arm is specially designed for use with the old type screw, or, the boss may be plain indicating that the arm includes a new type screw.

Only the new parts listed above should be used from this time forward in the service of 1951 or 1952 Commander V8 Engines.

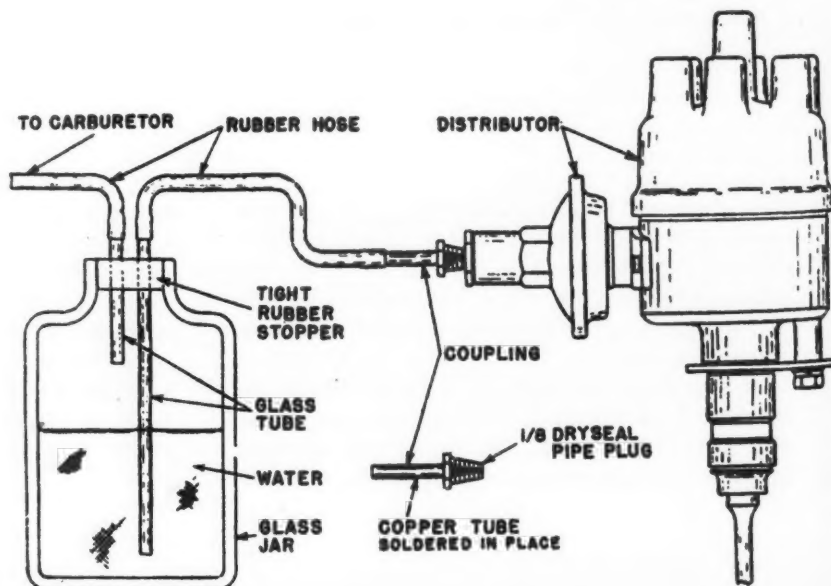
Testing Distributor Vacuum Control Unit

The Electric Auto-Lite Company suggests a procedure for checking the Auto-Light Distributor with the

integral vacuum control unit. This test is made by disconnecting the vacuum line from the distributor and connecting a test jar as shown. All connections on the distributor side of the test must be tight. Run the engine at constant speed (approximately 750 rpm.). If bubbles show in the water, the vacuum unit leaks and the distributor should be removed for repair. If only a slight bubble shows at intervals of about 15 seconds, there is no cause for rejection. To prevent water from being drawn into the vacuum chamber, disconnect the vacuum line from the distributor before starting the engine.

Check for Binding in Automatic Throttle Linkage

If the throttle linkage does not operate freely without bind on 1952 Ford 6-cylinder cars with Fordomatic, the accelerator throttle plate may not close completely when



pressure is removed from the accelerator pedal. This will cause the engine to run faster than it should at idle speed. To correct this difficulty, check for interference between the accelerator pedal rod and the floor mat. Eliminate existing interference and check linkage pivot points for possible bind. Remove the cause of the existing bind and then check the linkage for free operation.

Checking Chevrolet Automatic Choke Adjustment

The normal setting of the automatic choke carburetor used on Powerglide models is such that the scribed index mark on the thermostat cover is in line with the long cast marks on the top of the choke housing casting. With this setting the choke valve should be just closed at a stabilized temperature of 85°.

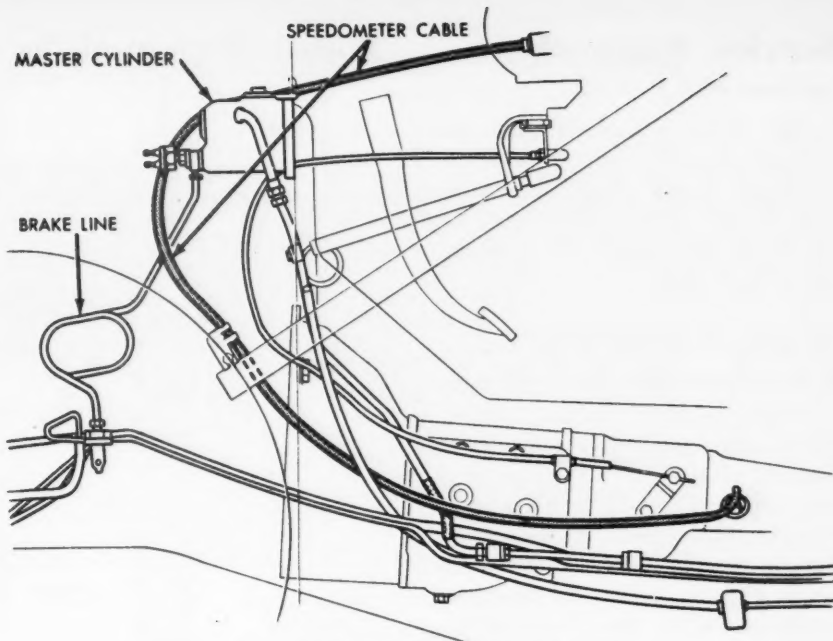
You can check the operation of the thermostat as follows:

1. Remove the air cleaner.
2. If engine is hot, remove carburetor from engine and allow to cool uniformly. The removal of the choke cover assembly will speed up this cooling. Remember, the carburetor must be normalized to room temperature before any attempt is made to check the operation of the choke. If the car has been standing for a few hours at room temperature then the removal of carburetor for cooling is not necessary.
3. Check choke valve and shaft for free operation, as there must be no binding in the air horn.
4. Now check the room temperature.

5. Reinstall choke cover assembly rotating clockwise so that the thermostat spring hooks behind choke lever. Set the cover index mark to long index mark on choke housing if room temperature is 85°; set one mark leaner for each 5° of the temperature below 85°; or set one mark richer for each 5° that the temperature is above 85°. Choke valve should then be just closed when air horn is vibrated or is rapped lightly.

Caution: Carburetor must be upright on flange and the throttle adjusting screw must not touch fast idle cam during the above check.

6. If the original setting was correct, reset cover index mark to long



Layout of Ford Speedometer Cable

index mark on choke housing and tighten 3 cover screws. If above check indicates need for changing original cover setting, make necessary correction and then tighten the 3 cover screws.

How to Reduce Spark Scatter On Cadillacs

The factory has made recent tests which indicate that any tendency toward "spark scatter," where spark plugs fire at other than 90 deg., crankshaft intervals, can be minimized by postponing the final tightening of the distributor clamp nut until the engine has been run for a few revolutions.

This procedure allows the end of the distributor shaft to seat properly in the drive gear for good alignment, thus reducing the possibility of any side load on the distributor shaft bearings.

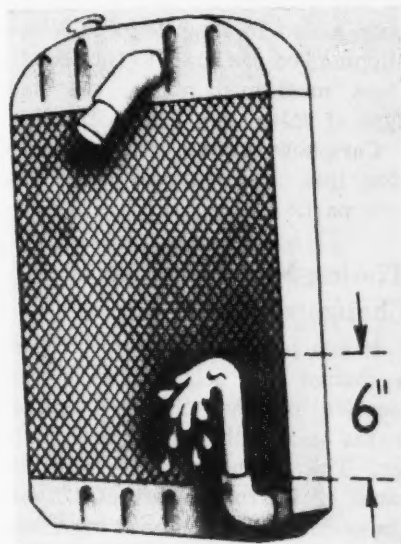
Rerouting Speedometer Cable on '52 Fords

If a rattle develops between the speedometer cable and the hydraulic brake line going to the master cylinder, the following factory-recommended remedy should be tried. Route the speedometer cable from the transmission upward and forward through the frame to the speedometer clip at the lower end of the steering column. Then continue upward on the outboard side of the brake line to the master

cylinder. Run it back in under the stop light switch wiring loom and then to the rear into the dash.

How to Check for Proper Radiator Water Flow

Plymouth offers some good advice on checking for a clogged radiator core. With the radiator filled with water, remove the bottom hose. The column of escaping water should



rise 5 to 6 inches in the air. If the water does not have sufficient flow, the core is clogged.

Proper Adjustment of Nash Steering Knuckle Pin

To insure freedom of operation of the upper control arm trunnion

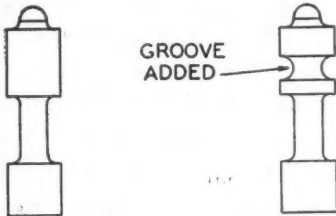
Service Suggestions

Continued from Page 51

on the steering knuckle pin, the steering knuckle pin should be tightened finger tight and then "backed off" one castellation. The nut should then be locked with its special lock pin.

Overrun Control Valve on Hydra-Matic May Stick Closed

Sometimes the Hydra-Matic transmission may work fine in all respects, Pontiac reports, except when the engine is being used as a brake in third speed. At this time slippage may be noted. This condition is usually due to the overrun control valve in the front servo sticking closed due to the force of the front band applying pressure against the side of the valve.



OLD TYPE

NEW TYPE

In order to minimize the tendency of this valve to stick, a groove has been added to it as shown. When slipping occurs under the conditions mentioned above, the new type of valve should be installed.

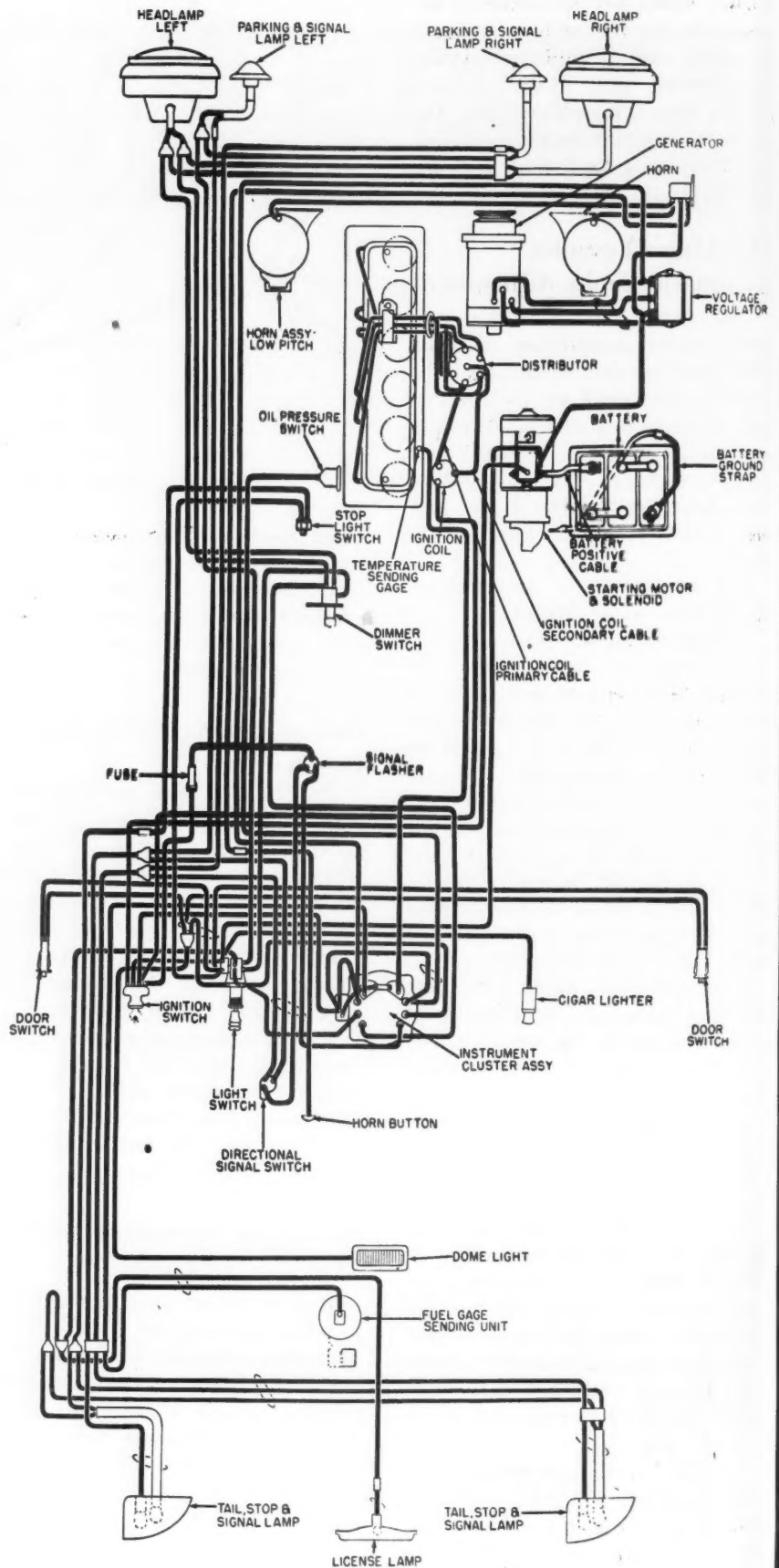
Cars now coming off the production line are equipped with the new part.

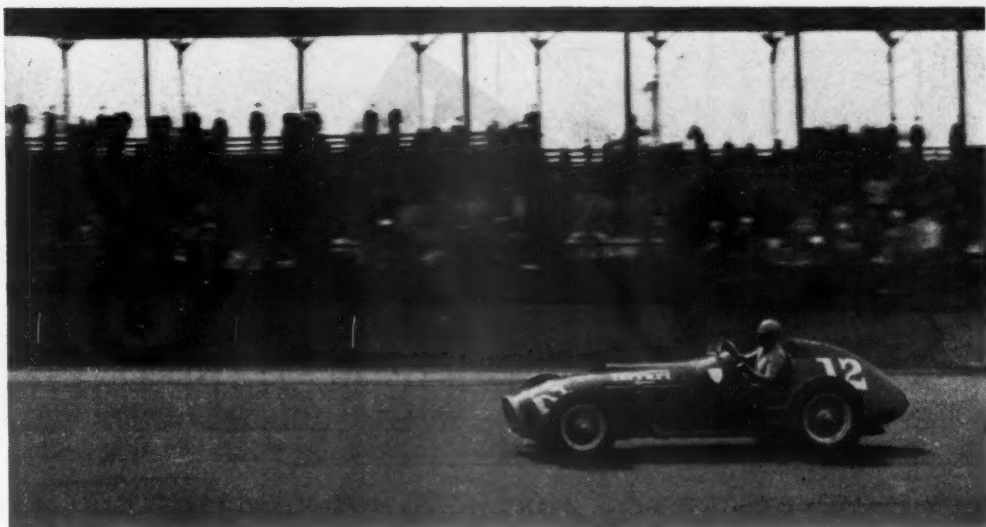
Timing Mark Location Change on Nash

It has just been announced that a change has been made in the location of the "I.G.N." timing marks on the vibration damper pulley. The timing mark is now located $\frac{1}{4}$ in. to the left (C.C.) of the previous location, viewing from the front of engine of the 1952 "Statesman."

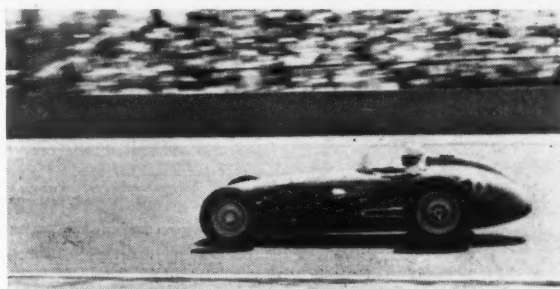
To insure a smooth idle, good performance and economy, all vibration dampers on all 1952 Statesman engines must be suitably marked at the new location. This can be done with white paint and/or filing a notch $\frac{1}{4}$ " to the left of the existing timing mark.

Wiring Diagram of the 1952 Willys Aero Ace





The Italian Ferraris were unsuccessful at Indianapolis this year, but the experience gained may make them a real threat in '53



What Happened to the Ferraris?

by John Gahagan

POST-RACE discussions center around the comparative abilities of the Italian Ferrari and one of the latest Kurtis-Kraft series, the Keck Special. The latter, driven by Bill Vukovich, was easily the fastest car on the Indianapolis Speedway last Memorial Day until forced out on the 192nd lap. The Ferrari, boasting one of Europe's most dazzling reputations, was most disappointing and owes its entry into the race mostly to the skill and tenacity of its driver.

There were so many arguable points after the 36th edition of the famed classic that those who sit in garages or on race track fences still haven't figured out some of the angles. And probably one of the choicest bits for debate was the disappointing showing put up by the highly-touted Italian Ferraris.

These 12-cylinder machines, the ultimate vestige of a well-bred European line, were felt to be the most serious challenge ever hurled at our American racing talent from their colleagues across the Atlantic. Ferrari design can boast a host of features—a V-12 powerplant with twin-overhead camshafts; two spark plugs per cylinder fed by a complicated magneto, cost of which was estimated by some press agent at

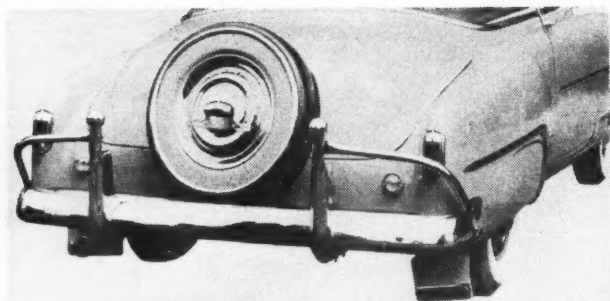
(Continued on page 82)



NEW

PRODUCTS

FOR FURTHER INFORMATION USE POSTCARD

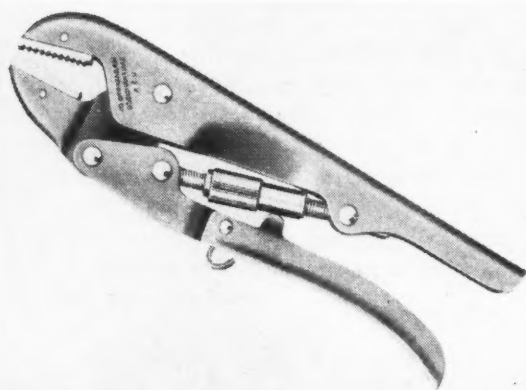


◀ 343. Continental-Type Kit

J and H Sales Co.: A new Erie Continental-type Rear Deck Kit is available for '49, '50, '51 and '52 Ford and Chevrolet. Installation takes about 10 minutes. There are no holes to drill. It is not necessary to replace the rear splash apron. It is not necessary to remove and extend the rear bumper. The kit clamps to the bottom of the deck lid. Since the kit is not designed to carry the spare tire, it lifts easily with the trunk lid. The spare remains inside the trunk.

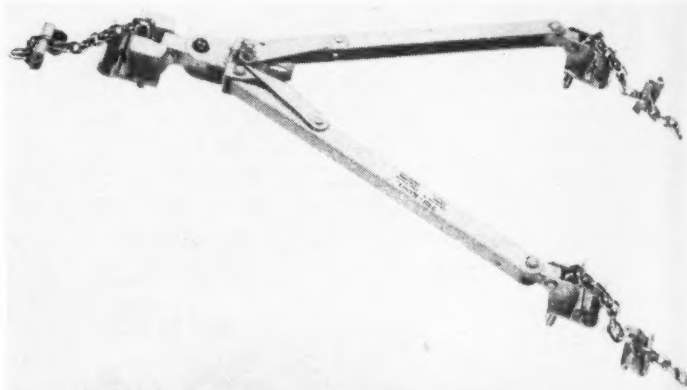
▼ 342. Vise Pliers

H. R. Basford Company: A different type of vise pliers known as "Gripso Trigger-Matic" features a trigger release that allows the user to release the pliers simply by pressing the trigger and squeezing the handles. It is said that this new feature eliminates the handles flying apart and makes it possible for the user to operate the tool with one hand. The tool also has a new kind of planar-grip jaw, designed to hold flat pieces in a constant plane and is said to provide double resistance to gripping and side twist.



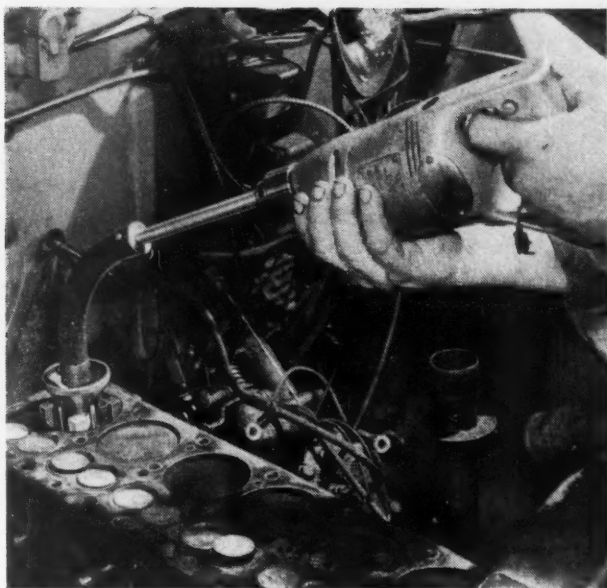
▼ 344. Tow Bar

The Tow Bar Sales Company: The Tri-King three point hook-up, universal bumper to bumper "V" type tow bar, features a detachable front jaw for installation. It has a self aligning king pin with a locking cotter key on the coupling and a yoke which is designed for wide spread to fit in or outside of grille bars. An especially designed lower bumper clamp for the back bar assures a safe permanent hook-up, the manufacturer states.



SHOW WINDOW

FACING NEXT PAGE



▼ 345. Cylinder Hone

Hastings Mfg. Company: A new type cylinder deglazer, known as the Flex-drive Hone, features a flexible drive shaft to make the operation easy from any angle and to permit quick entry into back cylinders. The expansion hone adjusts to hone any cylinder from three inches to $3\frac{7}{8}$ inch diameter.

346. Wall Chart

Raybestos Div. of Raybestos-Manhattan, Inc.: A new rubber product wall chart is now avail-

able to Raybestos dealers. The chart gives complete fan belt, hose and car mat specification data for popular passenger cars and light trucks, including 1952 models.

▼ 347. Sanding Block

Behr-Manning Corp.: The Behr-Cat Sanding Block is constructed entirely of rubber and designed to fit the hand for maximum control. Sheets of $2\frac{3}{4}$ x 9 inch sandpaper are used in the block and can be inserted individually or loaded in multiple. The block is

made of solvent resistant material so that it is adaptable for all sanding operations.

▲ 348. Ring Groove Gage

Perfect Circle Corp.: A gage for checking the limits of wear in the top ring grooves of pistons is now available from this firm. It is round, but beveled in four places, each being of a different thickness. Thus the gage is a four-in-one device. In use, if the appropriate size gage will go to the top ring groove, it indicates that the piston be regrooved or replaced.



New Products Continued from Page 55

349. Spray Gun

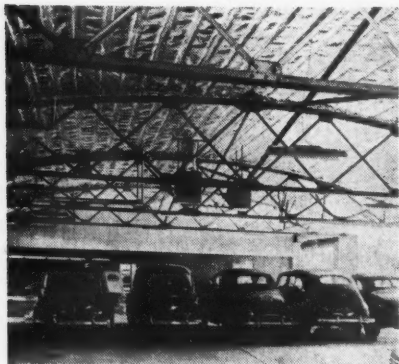
DeVilbiss Co.: A new spray gun for fine spraying is now available. The new gun, designated as Type EGA, is designed for small re-



finishing jobs, stenciling, blending, high-lighting and decorative work. It's spray pattern is medium sized and can be adjusted to practically pin-point size for touch-up work.

350. Shop Insulation

Reflectal Corporation: Savings in fuel, increased summer comfort, improved lighting and a permanent ceiling finish, are all features claimed for the multiple-layer reflective insulation which is available for the roofs or ceilings of repair shops or service departments. The insulation is known as "Alfol" and consists of three layers of aluminum foil, two of which "pop up" on application



to suspend themselves in air space between the joints. The bottom foil layer, which provides the light reflecting finish is laminated to a

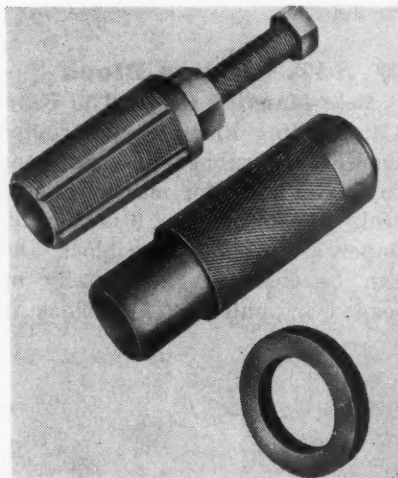
heavy, waterproof duplex backing that provides extra application support to prevent ripping or sagging. Installation of the Alfol "blanket" is said to be easy and is packaged in compact 250-ft. rolls. It is stapled right across the faces of the joists or furring strips.

351. Wiper Control

The Anderson Company: A new control instrument known as the Anco AVR, Automatic Vacuum Windshield Wiper Motor Regulator, is installed in the vacuum line to control wiper motor automatically. It is said to eliminate racing of the wiper motor and at the same time to add up to 30 per cent more blade performance as the vacuum weakens.

352. Special Puller

Owatonna Tool Company: A new tool designed to pull and install transmission bushing and oil seals



on Ford and Mercury cars from 1949 up to and including 1952 models, has been announced. With this tool the job can be done while the transmission is disassembled, or a new universal joint is being installed, without additional work.

353. Hot Rod Instruments

Stewart-Warner Corporation: A "Hot Rod Line" of speed and engine indicating devices is now being manufactured by Stewart-Warner. They are specifically designed for the hot rod needs, and the electric speedometer reads up to 160 mph. The tachometer will



give an accurate reading up to 8000 rpm. The oil pressure gage will give from zero to 100 pounds pressure; and the oil temperature gage from 100 to 270 deg. F; a water temperature gage from 40 to 220 deg. F; an ammeter which shows the charging rate from minus to plus 30; a vacuum gage from zero to 30 inches of vacuum and a fuel level gage.

354. Merchandiser

Zecol, Inc.: A new counter display for merchandising Zecol Cooling System Conditioner has been introduced. The display, which is designed in black, red and yellow, has a brief selling



message. Measuring 9 inches x 12 inches, it is offered to jobbers and dealers at no cost.

355. Steam Cleaner

Aeroil Products Company, Inc.: Known as the "Auto Steam" vapor steam cleaner, it is said to be especially suitable for cleaning motors, chassis, wheels, and bodies as well as white wall tires. It can be operated by one man. One-

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hundred pounds of steam pressure is generated in 90 seconds on this cleaner, the boiler being of the flash type which has continuous tubular pancake sections. It is equipped with a ½ hp. motor and has a capacity of 120 gallons per hour and a 75 to 110 working pressure.

356. Fluid Dispenser

The Aro Equipment Corporation: The Model 60034 Aro Automatic Transmission Fluid Dispenser dispenses directly from the original 100-lb fluid drum and can

be used with a four caster dolly. The unit has been designed to maintain the greatest possible cleanliness of the fluid, the manufacturer states. The gasket in the cover allows a tight fit to the drum so that dust and dirt are shut out and the filter behind them gives final screening to all out-going fluids. The flexible metal nozzle gives easy access to all types of automatic transmissions without the use of adaptors. The fluid hose is 7 ft. long, exclusive of filter and nozzle. It is attached to a totalizing quart meter having a 16-quart dial with double indicators, one

showing full quarts and the other showing fractional quarts.

357. Car Wash Compound

The Choldun Mfg. Corp.: "Purple Magic" is the name of a concentrated car wash shampoo containing "Vegamin" wax. This product is said to clean and shine cars in one operation. This basic wax is said to be harder than carnauba and water soluble in this compound, it undergoes a chemical change when it is applied so that it leaves a clean, durable, finish. "Purple Magic"

More Info

on new products in this issue which are of special interest to you can be obtained by using the free post card at the right. Fill in your name, address and other information and circle the numbers of the new products which interest you. Tear out the card and drop it in the mail.

Here's How

you can pass your thoughts on Motor Age to its editors. Just write down the titles of the features you like best in this issue in the order of your preference. Then, in the next spaces, write in your ideas on making Motor Age more useful to you.

Frank P. Tighe, EDITOR MOTOR AGE
Chestnut & 56th Sts., Philadelphia 39, Pa.

8/52

Please send me further information on the New Products, the code number of which I have circled below.

- | | | |
|-----------------------|--------------------------|--------------------------|
| 342. Vice Pliers | 352. Special Puller | 361. Bearing Seal |
| 343. Continental Kit | 353. Hot Rod Instruments | 362. Heavy-Duty Torch |
| 344. Tow Bar | 354. Counter | 363. Winding Tester |
| 345. Cylinder Hone | Merchandise | 364. Parts Cleaner |
| 346. Wall Chart | 355. Steam Cleaner | 365. Wheel Balancer |
| 347. Sanding Block | 356. Fluid Dispenser | 366. Paint Strainer |
| 348. Ring Groove Gage | 357. Car Wash | 367. Merchandise Station |
| 349. Spray Gun | Compound | 368. Reverse Flusher |
| 350. Shop Insulation | 358. Top Control | 369. Repair Kits |
| 351. Wiper Control | 359. Exhaust Deflectors | 370. Drum Lathe |
| | 360. Switch Package | |

Your NameYour Title

Your Company

JobberIndependent.....Dealer

Address(Street & No.).....(City).....(Zone).....(State).....

Frank P. Tighe, EDITOR MOTOR AGE
Chestnut & 56th Sts., Philadelphia 39, Pa.

8/52

We liked the following features in this issue of Motor Age:

1. _____
2. _____
3. _____

Here's how Motor Age can be more helpful to us:

Your NameYour Title

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New Products Continued from Page 47

contains no acid, alkalis, abrasive or soap. It is said to remove road grime, tree sap, oil or other foreign matter and is self-drying and non-streaking.

358. Top Control

Superior Engineering Corp.: A device that automatically raises convertible tops and automatic

windows the instant it starts to rain has been announced. It makes use of a micro-moisture grid which is installed on any exposed part of the car. The tiny grid can be removed when washing or polishing the car. The instant the first drop of rain, dew, or snow touches the grid, it starts the top-closing mechanism in operation. The assembly consists of a control box,

on and off switch, cut-off switch, the grid, control box mounting bolts, wire necessary for installation, and instructions on wiring diagrams. It can be obtained for operating the top only, windows only, or both top and windows.

359. Exhaust Deflectors

Richlite Mfg. Company: The New exhaust deflectors with chrome ball head and baffle are available from this firm. The baffle assembly deflects gases downward, protecting the car's chrome and paint. An air space between the baffle and outer shell is said to keep heat away from chrome plate, preserving the lustre of the deflector. It is made of No. 18 gage steel and finished with triple chrome plate.

360. Switch Package

General Automotive Specialty Co.: The new unit package of automotive switches which is designed to hold ten individually boxed switches of a particular catalog number, is now available. Called "Unipak," it is said to protect the individual packages from being damaged or soiled. Both the Unipak and the individual packages are printed in matching colors of red, white and blue with end panels clearly marked with description of content and code number.

361. Bearing Seal

The Brummer Mfg. Co.: A two-piece bearing type seal to prevent oil leakage from rear main bearing of automotive engines has been developed by the Brummer Mfg. Company, and is made of Hycar American rubber, a product of B. F. Goodrich Chemical Company. This seal replaces rope or wicking seals as well as incorporating a new technique in shaft sealing. The oil-resistant Hycar is precision molded into a lip type seal on a half-circle U-channel metal band. By fitting two of these half seals around the crankshaft and tightening together, a positive oil seal is obtained.

(Continued on page 108)

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The service department at John Quaden Motors. The 14 hoists in the building are a major time-saving factor.

Employee Policy Pays Off



John W. Quaden, President.

A well-equipped shop, ideal working conditions and a number of employee benefits have proved to be valuable in operating this service department

A SMOOTH working employee policy is paying dividends in greater output per employee at John Quaden Motors, Inc., Olds dealer at 7801 W. Greenfield Ave., West Allis, Wis.

Of the firm's 40 employees about 20 work in the service department. All employees are given free hospital and sickness insurance, and when a mechanic has been employed

for a year or more his name is painted on his service bench. Customers who walk into the service shop can soon become acquainted with the mechanics. In addition, the posting of the name also shows the employee that his individuality is recognized and respected.

When an employee has been with the firm for one year, he receives a one week vacation with pay. If he has been employed for two years he gets a 10 day vacation, and if he has been employed for three years he receives a 3 week vacation. Also, whenever an employee becomes a parent, he is given a check for \$5.00 for each child. He also receives a letter of congratulation from the firm.

Each employee and immediate members of his family receive birthday greetings from the Quaden firm when those important days roll

(Continued on page 86)



Accessory displays and the parts department are located in the customer reception area. Car owners like to "window shop" while waiting for service.

READERS CLEARING HOUSE



by Jack Montgomery, Technical Editor

- Buick has a "bounce" at 58 mph
- Cadillac misses on two cylinders
- Valve trouble on International truck
- Increasing power on the Willys 6
- Boosting compression on a propane-powered Dodge

TROUBLE

Buick Has a "Bounce" At a Speed of 58 mph

I have a 1947 Super Buick that has a bounce at the speed of 58 mph. First I rebuilt the front end and replaced all four shock absorbers. Balanced the four wheel drums and replaced the clutch. Balanced the flywheel and then pulled the rear axle housing, and disassembled and checked it. Examined all the bearings and the drive shaft and universal joint. Checked the front wheel bearings and the complete steering. Also installed four new tires. What is the trouble?

George Waller
Waller's Auto Repair
Winston-Salem, N. C.

USUALLY a condition of this kind results from wheels being out-of-balance. I would suggest that you try balancing these wheels once again, that is while they are on the car. Also there is a possibility that the fan blades might be out-of-balance. I would suggest that you run it without the belt for the test.

Another point worth checking is your engine mounts. If the engine is not lined up exactly, it could cause vibration. I would suggest that you loosen all the mounts and run the engine so it finds its own center.

Cadillac Has Questionable Symptoms of Valve Trouble

We have a 1950 Cadillac with 34,000 miles on it. We have ground the valves three times. We replaced all eight exhaust valves, cleaned and checked all hydraulic lifters and re-assembled them. It ran fine for 10,000 miles then it began missing on Nos. 1 and 4 cylinders on the right bank and Nos. 2 and 3 on the left bank.

The compression was checked and all eight cylinders tested from 115 to 120 pounds each. There is no valve noise to indicate sticky valves.

Chilton's MOTOR AGE, AUGUST, 1952

SHOOTING PROBLEMS

The fuel pumps were checked and the vacuum pump cleaned out. Also all plugs and the ignition were checked and the carburetor set.

From all appearances the trouble lies in the valve system. I would appreciate any information you could offer.

Bill Baker
*Baker's Auto Repair
Atwater, California*

SINCE the compression is good on this Cadillac, I would suggest testing the vacuum. It should be at least 17 to 21 inches. If it is under that then you either have a leak in the intake manifold or possibly the manifold has a slight crack in it.

It also could be caused by one low speed jet clogged in the carburetor. This job is equipped with a dual throat carburetor. The one throat feeds each four cylinders. The carburetor would be the first thing to check.

This Shop Has Valve Trouble With an International Truck

We have had valve trouble with a 1947 KB-6 International. We have done three valve jobs on it. Most of the trouble is in the intakes, very seldom the exhausts. It backfires through the carburetor when going downhill with no load. It only uses two quarts of oil per 1000 miles. We have checked for vacuum leak but cannot find any. What is the average miles per valve job on this truck.

Bill Revering
*Syvrrud Motor Co.
Alexandria, Minn.*

IT is hard to say how far a valve job should go on any truck. Under normal conditions and if it is not loaded too much, they should be good for at least 25,000 miles. You mentioned that this truck backfires when going down grade. This could be caused by the economizer in the carburetor being partially

clogged. I would suggest that you clean or enlarge the economizer hole slightly. Also I would suggest that you obtain some valves that are sodium filled in the stems. These will stand up much better under heat.

Working Over the Willys 6 To Obtain More Power

We have a 1952 Willys six which we would like to get more power out of. It is tuned perfect now and runs pretty good but we want more zip. Would planing the head help us any? It has 8,000 miles on it.

*Dan's Auto Service
Roslyn, Pa.*

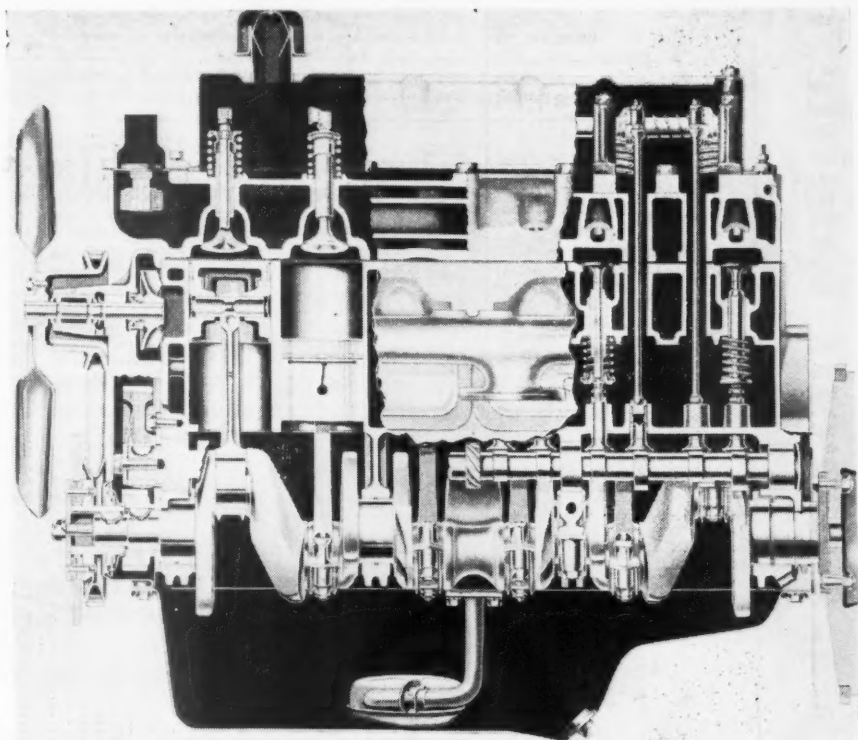
I WOULD suggest removing .030 in. from the head and while the head is off, grind the valves. Also check the valve spring tension and make sure the valve seats are in good condition. Try setting the timing to when you get a slight ping under a heavy load in high.

Increasing Compression on a Propane-Powered Dodge

I have a 1951 Dodge in which I burn propane and would like to raise the compression to 8 to 1. I'd like to know how much to plane off the head. As I burn regular gas once in awhile, I believe this is as much as I could raise the compression. What are your views on this? The engine as it is with a 7 to 1 compression puts out practically the same power as ordinary gas.

*Charles Rollins
Caledonia, Minn.*

THIS compression can be boosted to 8 to 1 by planing off the head .080 inches. But after this is done, it may be necessary to grind a little metal from the combustion chamber of the head for the valve clearance. So before installing the head, try it without the basket. Put a little modeling clay on top of the valves, crank the engine and then check for signs of contact.



Cross section of the Willys 6 F-head engine

Current Engine and Tune-up Specifications

ENGINE										VALVES										IGNITION										STEERING			
MAKE AND MODEL		Wheelbase (In.)	No. of Cylinders, Bore and Stroke	Taxable H.P.	Piston Displacement (Cu. In.)	Maximum Brake H.P. at Specified R.P.M. (With Bare Engine)	Compression Ratio	Spark Plug Make and Type	No. and Width of Compression Rings	Oil Ring	Rings		Seat Angle	Operating Tapet Clearance		Timing Marks	Breaker Point Gap	Cam Angle (Deg.)	Spark Plug Gap	Spark Occurs	Timing Marks	Cooling System Capacity (Qts.)	Crankcase Capacity (Qts.)	Grease Capacity (Qts.)	Caster (Deg.)	Camber (Deg.)	Toe-In (In.)	King Pin Inclination at Camber (Degrees)					
MAKE AND MODEL	Model										Inlet	Exhaust		Inlet	Exhaust														Deg. Inlet After T.C.	Timing Marks	Timing Marks	Timing Marks	
Buick	6, 40	121 1/2	8-3 1/2 x 4 1/2	32.51	263.3	120-3600	6.6	AC-46X	2-3/8	1-1/2	45	.015H	.015H	13B(c)	.015	(d)	.026	48	FLY	12(e)	5 1/2	12	1 to 3	0 to 1	1/2 to 3/4	4 1/2	4 1/2						
Buick	6, 40	125 1/2	8-3 1/2 x 4 1/2	32.51	263.3	120-3600	6.6	AC-46X	2-3/8	1-1/2	45	.015H	.015H	14B	.015	(d)	.026	48	FLY	12(e)	5 1/2	12	1 to 3	0 to 1	1/2 to 3/4	4 1/2	4 1/2						
Cadillac	6, 62	126	8-3 1/2 x 4 1/2	37.81	320.2	170-3600	7.5	AC-46X	2-3/8	1-1/2	45	.015H	.015H	14B	.015	(d)	.026	48	FLY	18	19	1 to 3	0 to 1	1/2 to 3/4	4 1/2	4 1/2							
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Cadillac	6, 62	126	8-3 1/2 x 4 1/2	37.81	320.2	170-3600	7.5	AC-46X	2-3/8	1-1/2	45	.015H	.015H	14B	.015	(d)	.026	48	FLY	18	19	1 to 3	0 to 1	1/2 to 3/4	4 1/2	4 1/2							
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Cadillac	6, 62	126	8-3 1/2 x 4 1/2	37.81	320.2	170-3600	7.5	AC-46X	2-3/8	1-1/2	45	.015H	.015H	14B	.015	(d)	.026	48	FLY	18	19	1 to 3	0 to 1	1/2 to 3/4	4 1/2								

Abbreviations
 *—Powerglide chassis model available at extra cost.
 (a)—126 1/2; 130 1/2.
 (b)—Off seat.
 (c)—Same as series 50 and 70 when hydraulic lifters are used.

(d)—Dwell meter for setting point opening is not recommended.
 (e)—15 when equipped with Dynaford transmission.
 (f)—Top ring 1/4; second ring 3/8.
 (g)—C-55-125 1/2; C-52 and C-54-131 1/2.

(h)—Left side to be 1/4" to 1/2" higher than right side, within these limits.
 (i)—Upper 3/4; lower 1/4.
 (j)—With heater.
 (k)—AL-A5H; CH-J8; AC-46-5.
 (l)—Autolite-27; Delco-21 1/4.
 (m)—115; 119.

HB—Harmonic balancer.
 N—No or none.
 TC—Top center.
 VD—Vibration damper.
 VTS—Valve train solid.

CB—Crankshaft balancer.
 CH—Champion Spark Plug Co.
 DC—Dampier timing cover.
 AC—AC Spark Plug Co.
 FE—The Electric Autolite Co.
 H—Hot.

Dealer Raises Parts Volume 20%

A Texas dealer tried prize drawings to draw the trade to his parts counter.

The idea clicked and sales soared, even in the seasons when business is down

by C. Thomas

SWEARINGEN-ARMSTRONG, Ford dealers, Austin, Texas, have found a deal that they can use three to four times a year and each time be assured it will boost their parts volume up between 20 and 25 percent.

It is a simple stunt, and the cost never exceeds \$250, a small percentage of the gross results.

The biggest cost is for the prizes. The form letter that Swearingen-Armstrong sends out to their customers lists the prizes . . . and gives their retail value.

Said Bob Armstrong, "We buy these items wholesale. Their cost to us is 30 percent of their list price. In selecting these items, we have found that it takes at least three major items to create any interest."

By going over the list it will be seen that items suitable for the home are also included. This is an important factor. Many small garage owners prefer something for the home to some personal item. And the idea must be geared to mass appeal, if it is to be successful.

The prizes are bought beforehand, and prominently displayed in the parts department.

"The whole idea," said Bob Armstrong, "is to concentrate the small dealer's purchases. That is, when they are in here to get them to buy additional items that they otherwise wouldn't, in order to get an extra chance on the prizes. For example, say, a customer buys items that

(Continued on page 90)



Customers receive a ticket for each \$5.00 worth of purchases. These are deposited in the "cage" until the drawing.

Prizes are on display well in advance of the drawing, as an added incentive to participate.



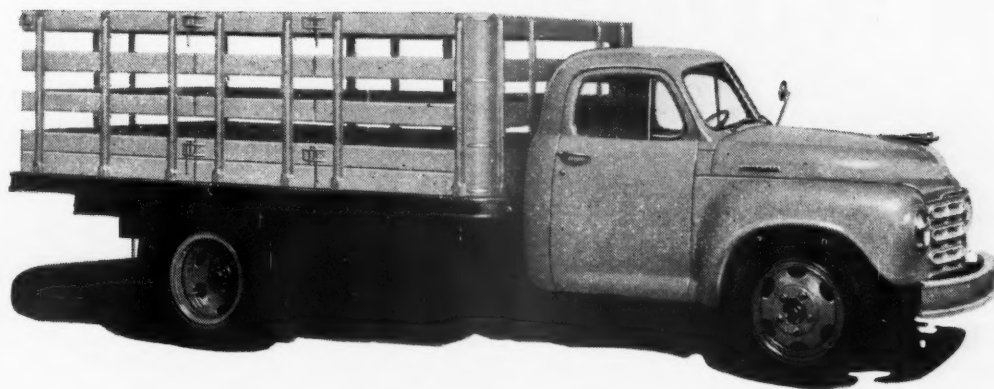
Current Passenger Car Price, Weight and Body Table

Following are prices at factory for cars with standard equipment as of July 21, 1952. State or local taxes, transportation and finance charges and optional equipment are extra.

BODY MAKE AND MODEL					BODY MAKE AND MODEL					BODY MAKE AND MODEL					BODY MAKE AND MODEL				
	List Price at Factory without Federal Taxes	Federal Taxes and Handling Charges	Delivered Price at Factory including Federal Taxes	Shipping Weight		List Price at Factory without Federal Taxes	Federal Taxes and Handling Charges	Delivered Price at Factory including Federal Taxes	Shipping Weight		List Price at Factory without Federal Taxes	Federal Taxes and Handling Charges	Delivered Price at Factory including Federal Taxes	Shipping Weight		List Price at Factory without Federal Taxes	Federal Taxes and Handling Charges	Delivered Price at Factory including Federal Taxes	Shipping Weight
BUICK					DE SOTO†					HUDSON (Continued)					PACKARD				
Special 40					DeLuxe					Hornet 6				200					
Bus. Coupe	1864	176	2040		Club Coupe	2137	166	2303	3435	Club Coupe	2465	238	2723	3550	Club Sedan, 2d.	2278	197	2475	3640
Sport Cpe., 2d.	1918	181	2099	3605	Sedan, 4d, 6p	2149	167	2316	3540	Sedan, 4d.	2510	239	2749	3600	Tour. Sedan, 4d	2327	201	2528	3680
Sedan, 2d.	1951	183	2134		Carry All	2370	184	2554	3650	Hollywood	2809	262	3071	3630	200 DeL.	208	208	2622	3660
Sedan, DeL., 2d	1994	187	2181	3620	Sedan, 4d, 8p	2896	224	3120	4035	Conv. Brghm.	3038	280	3318	3753	Club Sedan, 2d	2414	208	2622	3660
Sedan, 4d.	2005	188	2193		Custom					Commodore 8					Tour. Sedan, 4d	2464	211	2675	3660
Sedan, DeL., 4d	2048	191	2239	3665	Club Coupe	2333	181	2514	3565	Club Coupe	2485	238	2723	3580	250				
Rivra. Cpe., 4d	2086	193	2279	3685	Sedan, 4d, 6p	2352	183	2535	3660	Sedan, 4d.	2510	239	2749	3630	Mayfair Cpe.	3028	265	3293	3805
Conv. Cpe., 2d	2399	216	2615	3850	Sportsman	2664	206	2870	3720	Hollywood	2809	262	3071	3660	Conv. Coupe	3174	276	3450	4000
Super 50					Conv. Coupe	2761	215	2976	3865	Conv. Brghm.	3038	280	3318	3773	Tour. Sedan, 4d	2843	251	3094	3680
Rivra. Cpe., 2d	2244	216	2460	3775	Stat. Wagon	2940	228	3168	4020						Tour. Sedan, 4d	3466	301	3767	4100
Sed. Rivra., 4d	2323	222	2545	3825	Sedan, 4d, 8p	3099	240	3339	4155										
Conv. Cpe., 2d	2605	243	2848	3970	Suburban	3442	266	3708	4370										
Est. Wagon, 4d	3000	272	3272	4105	Fire Dome 8					KAISER VIRGINIAN									
Firemaster 70	2899	279	3178	4285	Club Coupe	2505	195	2700	3675	De Luxe	2037	176	2213		PLYMOUTH†				
Rivra. Cpe., 2d	2995	287	3282	4235	Sedan, 4d, 6p	2525	186	2721	3760	Bus. Coupe	2210	190	2400	3145	Concord				
Conv. Cpe., 2d	3130	296	3428	4395	Sportsman	2837	220	3057	3850	Sedan, 2d.	2210	190	2400	3145	Coupe, 3p	1480	121	1601	2893
Est. Wagon, 4d	3616	333	3949	4505	Conv. Coupe	2934	227	3161	3950	Sedan, 4d.	2260	193	2453	3195	Sedan, 2d.	1612	130	1742	2869
					Stat. Wagon	3113	241	3354	4080	Traveler, 2d.	2309	196	2505		Suburban	1985	161	2150	3145
					Sedan 8p.				4325	Traveler, 4d.	2357	201	2558		Savoy	2103	170	2273	3165
										Manhattan					Gambridge				
CADILLAC					DODGE†					Sedan, 2d.	2318	199	2516	3185	Club Coupe	1640	134	1774	3030
Series 62					Wayfarer					Club Coupe	2338	199	2537	3185	Sedan, 4d	1675	136	1811	3086
Spt. Coupe	3266			4120	Coupe, 3p.	1737	135	1872	3060	Sedan, 4d.	2367	201	2568	3220	Cranbrook				
Tour. Sedan	3354			4125	Sedan, 2d.	1873	147	2020	3140	Traveler, 2d.	2416	205	2621		Club Coupe	1731	139	1870	3046
Cpe. deVille	3658			4200	Meadowbkr.					Traveler, 4d.	2465	208	2673		Sedan, 4d	1760	141	1901	3088
Conv. Cpe.	3796			4390	Sedan, 4d.	1993	156	2149	3355					Belvedere	2039	162	2201	3105	
Series 80					Cornet					LINCOLN					Conv. Cpe.	2143	170	2313	3236
Tour. Sedan	3934			4275	Club Coupe	2063	162	2225	3290	Cosmopolitan									
Series 75					Sedan, 4d.	2078	163	2241	3385	Sedan, 4d.	3198			4125					
Tour. Sedan	3941			4770	Diplomat.	2398	187	2585	3475	Sport Coupe	3293			4155	PONTIAC				
Imp. Sedan	6139			4790	Conv. Coupe	2486	193	2679	3520	Capri					Chieftain 6				
					Sierra	2679	209	2868	3735	Sedan, 4d					Sedan, 2d.	1775	168	1943	3253
					Sedan, 4d, 8p.	2823	220	3043		Sport Coupe					Sedan, 4d.	1829	172	2001	3276
										Convertible					DeL. Sed., 2d.	1871	175	2046	3223
CHEVROLET					FORD										DeL. Sed., 4d.	1925	179	2104	3278
Styl. Spec. KJ					Mainline 6				2984	MERCURY					DeL. Catalina.	2097	192	2289	3358
Bus. Coupe 2d.	1390	129	1519	3045	Bus. Coupe	1389			3173	Customline					Sup. DeL. Cata.	2158	196	2354	3368
Sedan 2d.	1469	134	1603	3085	Tudor	1485			3070	Two Door	1987			3335	Stat. Conv. Cpe.	2226	202	2428	3478
Sport Coupe	1474	135	1609	3050	Fordor	1530			3173	Four Door	2040			3390	Stat. Wagon	2383	214	2597	3593
Sedan 4d.	1519	140	1659	3115	Ranch Wagon	1832			3377	Sport Coupe	2100			3435	DeL. Sta. Wgn.	2461	220	2681	3529
Styl. DeL. KK					Customline 6					Sta. Wagon, 6p.	2525			3795	Chieftain 8				
Sedan 2d.	1553	143	1696	3110	Tudor	1570			3070	Sta. Wagon, 8p.	2570				Sedan, 2d.	1845	173	2018	3333
Sport Coupe	1570	145	1715	3100	Club Coupe	1579			3079	Monterey					Sedan, 4d.	1898	177	2075	3376
Sedan 4d.	1603	146	1749	3145	Fordor	1615			3173	Four Door	2115			3375	DeL. Sed., 2d.	1941	181	2122	3333
Bel Air Coupe	1827	165	1992	3215	Mainline 8					Sport Coupe	2225			3520	DeL. Sed., 4d.	1995	184	2179	3378
Conv. Coupe	1939	174	2113	3380	Bus. Coupe	1459			3085	Convertible	2370			3635	DeL. Catalina.	2166	198	2364	3443
Sta. Wagon	2096	185	2281	3475	Tudor	1555			3151						Sup. DeL. Cata.	2227	202	2429	3446
Ftln. DeL. KK					Fordor	1600			3207						Stat. Conv. Cpe.	2294	206	2500	3558
Sedan 2d.	1553	143	1696	3110	Ranch Wagon	1902			3406						Stat. Wagon	2452	219	2671	3688
					Customline 8					NASH					DeL. Sta. Wgn.	2530	224	2754	3833
CHRYSLER†					Club Coupe	1640			3153	Rambler Super									
Windser 6					Tudor	1640			3151	Suburban, 2d.	1828	162	1990	2515	STUDEBAKER				
Club Coupe	2279	178	2457	3550	Fordor	1685			3207	Rambler Cust.					Champ. Cust.				
Sedan, 4d, 6p.	2301	179	2480	3640	Country Sed.	2060			3617	Cty. Clb. Sed., 2d	1912	168	2080	2420	Sedan, 2d, 6p.	1574	150	1724	2659
Twn. and Cty.	2950	228	3178	4015	Crestline 8					Conv. Sedan, 2d	1936	188	2104	2430	Coupe, 5p.	1600	152	1752	2660
Sedan, 4d, 8p.	3080	238	3318	4145	Victoria	1925			3274	Stat. Wagon, 2d	1936	168	2104	2515	Sedan, 4d, 6p.	1606	151	1757	2695
Wind. DeL. 6					Sunliner	2027			3339	States'n Super					Champ. DeL.				
Sedan, 4d.	2512	195	2707	3775	Country Sq.	2186			3640	Sedan, 2d.	1947	178	2125		Sedan, 2d.	1661	155	1816	2685
Newport	2844	220	3064	3855						Sedan, 4d.	1982	178	2160	3045	Coupe, 5p.	1687	156	1843	2675
Conv. Coupe	2958	229	3187	3990	HENRY J					States'n Cust.					Sedan, 4d.	1692	157	1849	2720
Saratoga 8					Vagabond					Sedan, 2d.	2102	188	2290		Champ. Regal				
Club Coupe	2937	228	3165	3935	Sedan, 4 cyl.	1239	110	1349	2365	Sedan, 4d.	2124	188	2312	3070	Sedan, 2d.	1739	161	1900	2690
Sedan, 4d, 6p.	2963	229	3192	4010	Corsair	1373	120	1494	2385	Amb. Super					Coupe, 5p.	1765	163	1928	2695
Twn. and Cty.	3619	278	3897	4345	Sedan, 4 cyl.	1332	117	1449	2370	Sedan, 2d.	2291	207	2498		Sedan, 4d.	1770	163	1933	2725
Sedan, 4d, 8p.	3846	296	4142	4510	Sedan, 6 cyl.	1466	127	1594	2405	Sedan, 4d.	2327	207	2534	3430	Starliner	2038	182	2220	2860
New Yorker 8	3254	251	3505	4205	HUDSON					Amb. Cust.					Soft Conv.	2071	186	2257	2870
Sedan, 4d, 6p.	3659	282	3941	4325	Pacemaker 6					Sedan, 4d.	2453	218	2671		Commander				
Newport	3773	291	4064	4450	Coupe, 3p.	1910	193	2103	3305		2474	218	2692	3480	Regal				
Imperial 8					Brougham	2047	203	2250	3355	OLDSMOBILE					Sedan, 2d.	1894	178	2072	3040
Club Coupe	3527	272	3799	4220	Club Coupe	2090	207	2297	3335	DeLuxe 88					Coupe, 5p.	1921	180	2101	3030
Sedan, 4d, 6p.	3540	272	3812	4315	Sedan, 4d.	2090	207	2297	3390	Sedan, 2d.	2050	196	2246	3565	Sedan, 4d.	1927	180	2107	3085
Newport	3894	300	4194	4365	Wasp					Sedan, 4d.	2110	201	2311	3608	State				
Crown Imp. 8					Brougham	2186	210	2396	3470	Super 88					Sedan, 2d.	1974	184	2158	3055
Sedan, 4d, 8p.	6355	466	6821	5395	Sedan, 4d.	2234	214	2448	3485	Club Coupe	2127	202	2329	3597	Coupe, 5p.	2001	186	2187	3023
Limousine	6469	474	6943	5430	Club Coupe	2234	214	2448	3435	Sedan, 2d.	2173	206	2379	3603	Sedan, 4d.	2006	187	2193	3075
					Hollywood	2551	239	2790	3525	Sedan, 4d.	2235	210	2445	3649	Land Cruiser	2151	198	2349	3155
					Conv. Brghm.	2771	255	3026	3635	Holiday					Starliner	2282	206	2488	3220
					Commodore 6					Conv. Coupe	2595	238	2833	3867	Soft Conv.	2320	211	2531	3230
					Club Coupe	2397	231	2628	3550	98									
					Sedan, 4d.	2421	234	2655	3595	Sedan, 4d.	2533	234	2767	3765	WILLYS				

† Prices do not include delivery and handling charges.

IN TRUCKS...



AS WELL AS IN CARS...



**America is turning
more and more to**

STUDEBAKER

for long-lasting

LOW COST MILEAGE



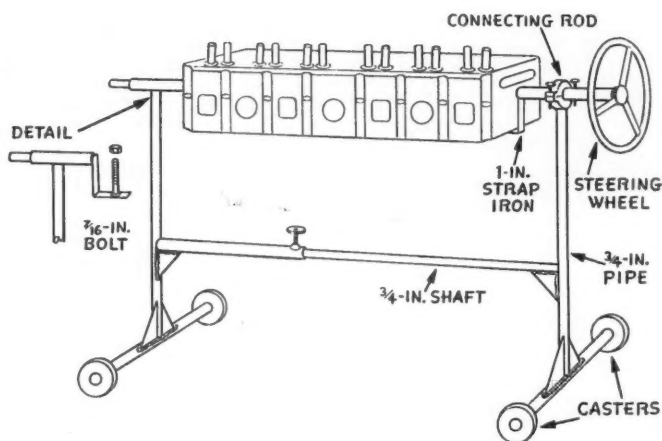
Shop Kinks

If you've come upon an original idea for making a job easier, a special tool, short cut on a job or any trick of value to other readers, write it down and, if necessary, make a rough sketch. Just make it clear. Send it to Motor Age. If we can use your Kink it may bring seven-fifty, possibly 25 dollars.

For The Best Kink Published Each Month . . . \$25

For All Kinks Published Each Month . . . \$7.50

Best Kink of the Month



Cylinder Head Stand from Scrap Metal

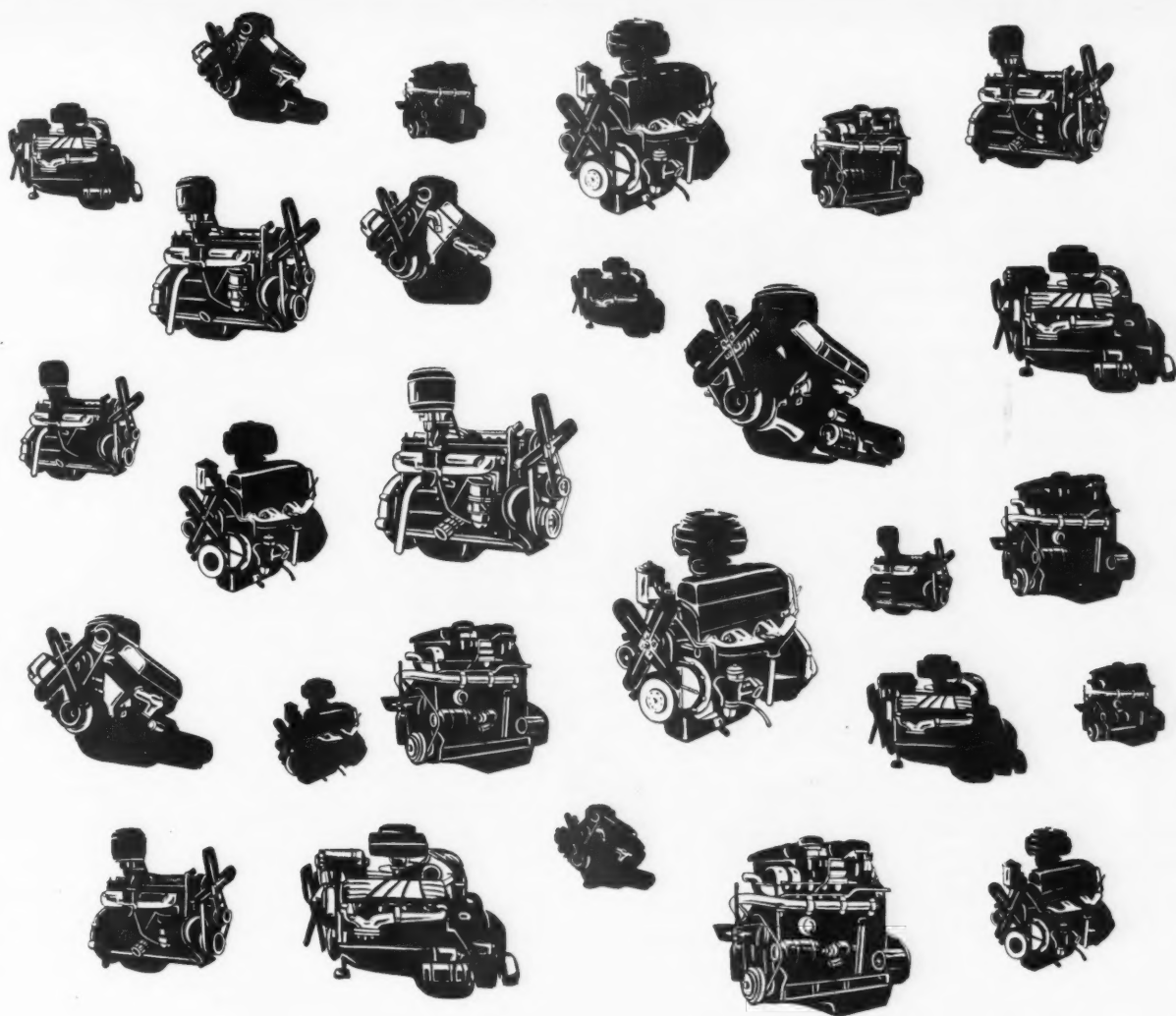
This is a handy cylinder head stand that I made out of scrap found around most any shop. I find this one of my most useful gadgets as it will take any size head up to the largest tractors. It can be spun into any position and is held there by a thumb screw on a connecting rod which acts as a clamp. Also, it is portable. **Jack M. Fisher, Northern Implement Co., Big Sandy, Montana.**

Tool for Working on Dodge Emergency Brake

On 1951-1952 Dodges with Gyro-Matic, in order to reline the emergency brake, which is the internal expansion type, it is necessary to remove the brake drum from the rear of the transmission. On these, because of the Gyro-Matic, you can not lock the transmission in gear. To remove the large nut which holds the drum to the shaft, take a piece of flat iron $\frac{1}{4}$ in. thick, using the U-joint for a pattern. Then drill four $\frac{3}{8}$ -in. holes between the holes and cut out enough metal to allow a $1\frac{1}{4}$ -in. socket wrench to go through. Weld on a handle about a foot long. All this is necessary to remove the drum line. Slip the tool onto the four protruding studs, using a $1\frac{1}{4}$ -in. socket on a flexible handle and allowing it to turn until the handle of the special tool strikes the floor board. You can use all the pressure required to either loosen or tighten the nut. **George Randash, Randash Motors, Baker, Mont.**

Eliminating an Oil Leak on Kaisers

I have found Kaiser cars with an oil leak in front of the motor. After careful examination I found
(Continued on page 68)



25 out of 27 leading engine manufacturers using chrome rings as original equipment specify PERFECT CIRCLES!

Perfect Circle chrome rings are preferred by engine manufacturers because of *performance*.

And, in replacement service, Perfect Circle's 2-in-1 Chrome Set has also established new standards of piston ring performance. The thick solid chrome plating on the top compression rings and oil ring rails more than doubles the life of pistons, cylinders and rings. What's more, 2-in-1 is the only set that provides a choice of expander springs to assure positive oil control regardless of cylinder condition.

There's no tedious break-in period with 2-in-1 Chrome Rings—they are factory lapped for quick, positive seating.

As a Doctor of Motors, you can't afford to settle for less than the best—and the best is 2-in-1! Perfect Circle Corporation, Hagerstown, Indiana; The Perfect Circle Co., Ltd., Toronto, Ontario.

Solid chrome protects these wearing surfaces. Normal pressure and alternate HiPressure springs (for badly worn cylinders) packed with each oil ring.



Perfect Circle

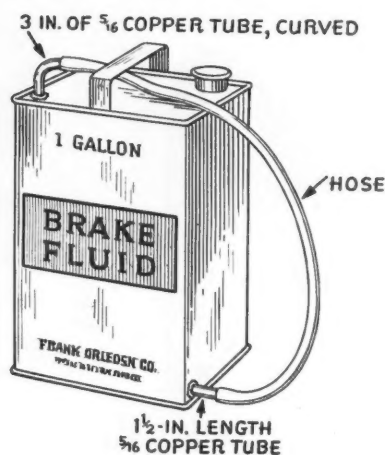
The Standard of Comparison

Shop Kinks Continued from Page 66

that the leak is not from the front oil seal but comes from between the motor support plate and the block. In order to install a new gasket between the block and the plate, it is necessary to remove the crankcase, because one Allen head screw is driven into the plate from the inside of the case. This saves the job of removing and replacing the crankcase. The bottom of the Allen screw protrudes from the support plate about two threads. Hack-saw a slot in the bottom of the screw and drive it in with a screwdriver. After replacing the gasket insert a hooked wire through the opening along the crankshaft and hold the head of the screw with the wire against the support plate. At the same time turn the bottom of the screw counter-clockwise. *Louis Stoler, 2065 South Boulevard, Bronx, N. Y.*

Making a Brake Fluid Dispenser with a Gallon Can

I have made a very handy brake fluid dispenser from a gallon can. I soldered a 5/16 in. copper tube 1½ in. long at the bottom and one 3 in. curved at the top. I then installed a length of wiper hose. When the hose is detached from the top, the top tube serves as a vent. I hold my finger on the end



and can place it in the most difficult places. It saves a lot of fluid that would otherwise be lost. Should the can turn over, no fluid is lost. We used a can with a handle for convenience and so that we could locate the top vent under

the handle where it wouldn't get broken off. *Gordon Lawhorn, Lawhorn's Auto Repair, RFD 2, Ellersson, Va.*

Replacing Hydra-Matic Rear Clutch Band

The rear band on all Hydra-Matics can be replaced without removing the unit as follows: Remove the governor and valve body and both servos. Remove the bolts from the rear clutch cover and rear housing. Put two screwdrivers between the oil delivery sleeve cap and the rear drum, and also remove the rear housing. The new band can now be slipped into place. On the older models, it may be necessary to loosen the oil delivery sleeve cap to lower the rear drum. Caution—do not let the rear drum slide forward or the screwdriver come out. *Mike Allum, Ser. Mgr. Devonshire Lane Service, Inc., 390 Riverdale Avenue, Yonkers, New York.*

Modification on Kaiser and Frazer Hand Brakes

We've found a good way to improve the holding action of Kaiser and Frazer hand brakes. It's done by changing the cable hook-up.

1. Apply a pedal jacking device to the foot brake to provide enough pressure to lock the wheels. (This makes it easier to pull the rear cable by hand.)

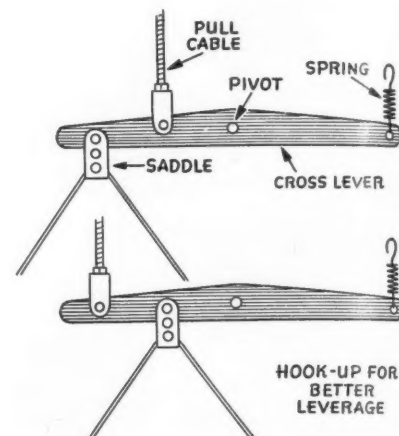
2. Disconnect the front and rear cables and return spring from the cross lever.

3. Hold the cross lever in the straight across position. Pull the rear cable up tight by hand. The equalizer saddle has three holes for the clevis pin. With good linings the front hole usually will be OK. Hook up the rear cable to the in-board hole in the cross lever. This is important.

4. Pull the brake handle back four or five notches and adjust the clevis on the front cable so that the pin will enter freely in the out-board hole of the cross lever with the cross lever pulled up tight.

5. Release the brake handle and pedal jack and check the rear wheels for drag. If any drag is

present back off the clevis on the pull cable till the rear wheels are free. Replace the cotter pins and return spring and re-check the position of the cross-lever with the



brake handle fully applied. For best leverage the cross lever should stand in the straight across position or with the left end setting slightly towards the rear of the car. *John Mucciario, Yorktown Motor Service, 4404 Toland Way, Los Angeles 41, Calif.*

Remedy for Popping Caps On Chrysler Distributors

This is a sure cure for popping distributor caps on late model Chrysler products. Replace the vacuum line from the carburetor to the distributor with copper tubing. Where the tubing crosses the head, keep it in contact as much as possible with the head and make a double coil of the tubing on the head. Clamp this tubing to the head with the regular clip on a head bolt, having the clamp on the carburetor side of the coils so that the warmest part of the tubing will be from the carburetor to the coils. The engine heat will keep the tubing coils warm enough so that any gasoline getting to the vacuum line cannot go beyond the coils and fall into the vacuum control. The warm tubing will help vaporize the gasoline and it will be drawn back into the intake manifold. When putting on this copper line, be sure to replace the present vacuum control with a new one as the present one may contain sufficient gasoline to pop the distributor cap. *Charles Brush, Jr., Auto Electric Co. Nyack, N. Y.*



Other valuable information of the type presented each month in **The BODY SHOP** is available in Chilton's Motor Age Body and Frame Manual.



Put Abrasives to Work for You



A 24 grit sanding disc being used for rough grinding, such as cutting down welds, removing solder, restoring contours, and so forth.



Using a cutting wheel with a depressed center to cut out a damaged door panel. It is used for a variety of cutting jobs.

Put Abrasives to Work

A variety of types and grades of abrasives are available to make

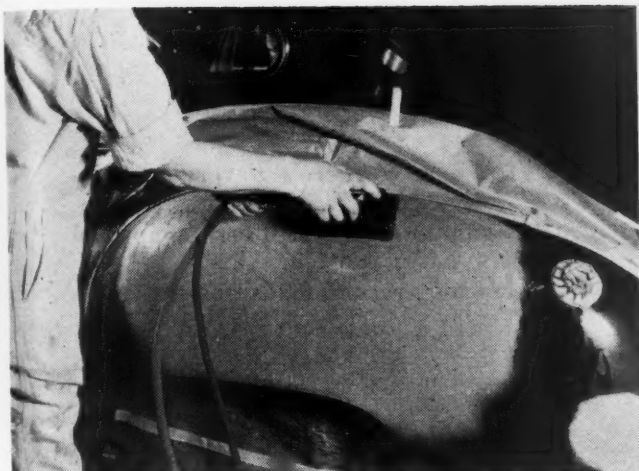
A RECENT incident in an autobody refinishing school dramatically points up the importance of knowing what abrasives to use and how to use them. The instructor and his class were gathered around the hood of a newly painted car. The class was asked to look closely at a series of hairline scratches which showed through the paint. The students were instructed to determine what caused them and how to eliminate them.

One youngster's face was extra red. Having done the job, he now knew the answers all too well. The wrong abrasive disc was used in the final preparation. He figured that the fine hairline cracks would be covered with paint and disappear, but the paint just seemed to magnify them. To do the job right, they had to remove

the paint on that panel right down to the metal and prepare the metal properly.

The above case happened in a school, fortunately, where an allowance is made for errors due to inexperience. But in the field, body shop mechanics are obliged to use good judgment in their choice of materials. Properly used, abrasives will work for them, but a poor choice of grits, or improper use of the right grit may cause a lot of trouble.

When refinishing a car, the scratches and sanding marks in the metal are magnified by the paint. This is because the paint tends to build up on the edge of the crack, rather than to fill in. Consequently, the scratch shows up. Thus, a coarse abrasive can be used very successfully for removing paint and grinding down



Undercoats being sanded with a 220 grit wet sandpaper on a reciprocating sander. This provides a smooth surface for the final coats.



Hand-sanding the color coats with wet sandpaper. Grade 320A, 360A or 400A is used, depending upon the finish desired.

for You

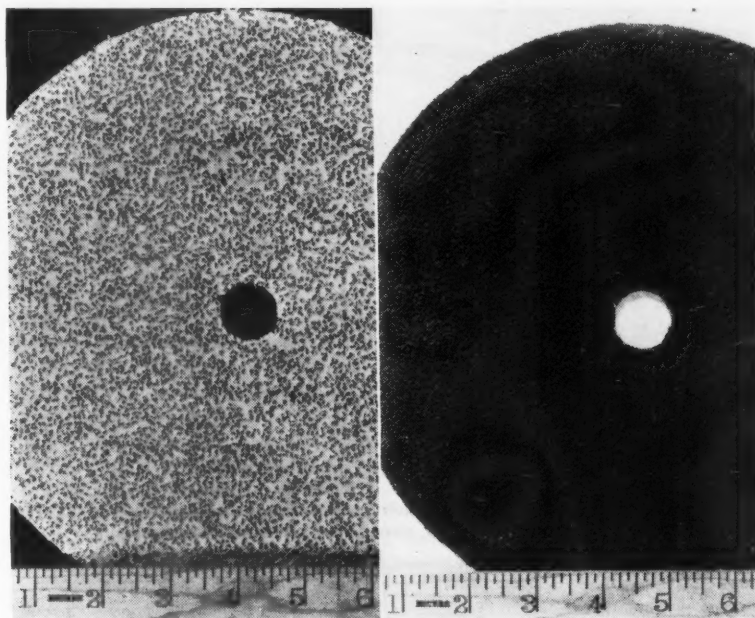
work easier for body men

metal, but final grinding and sanding must be done with a fine abrasive. The surface should be perfectly level before refinishing is started.

Since manufacturers of abrasives supply a variety of types and grades to make work easier for the operator, it's advantageous to know the differences.

Basically, three types of abrasives are used in body work, sanding discs, production paper and waterproof paper.

Discs, which are used on rotary grinders, are



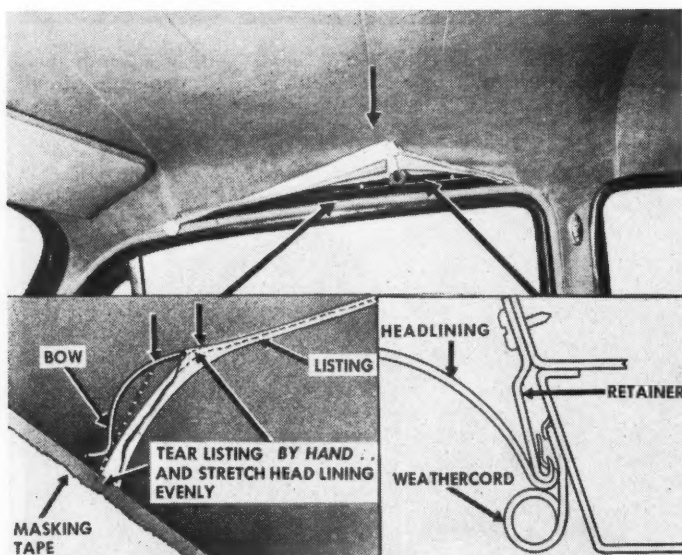
Comparison of the open and closed discs. At the left is an open grit 16B disc, and at the right, a 24A closed coat disc. Note how close the mineral grains are spaced.

by Arthur H. Nellen, Jr., Service Editor

designed to remove all paint on the metal and grind down metal and welds, as well as other heavy-duty operations which require the use of rotary machines. They are also available in finer grades for finish work. (Continued on page 103)

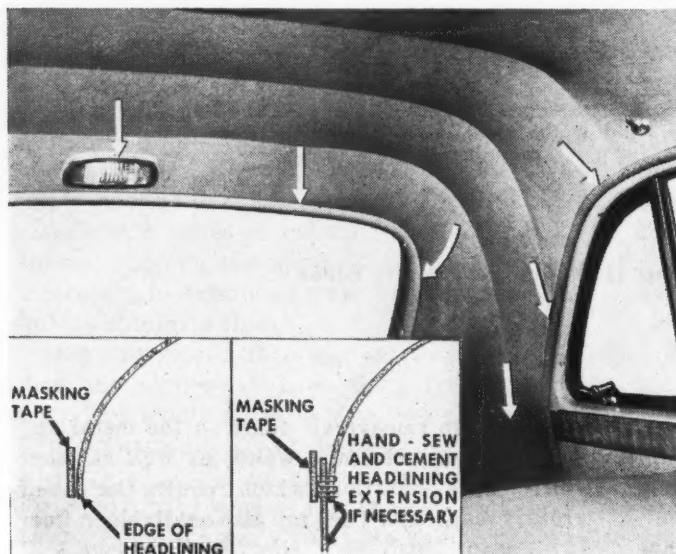
When Headlining Rips . . . there's a very satisfac-

tory method of making the repair on Plymouth cars, and it can be applied to other makes as well. Here's how the factory recommends doing the job



Tear listing by hand, using care not to tear too much. Just loosen enough to gain more headlining edge for gripping.

Arrows indicate direction of headlining stretch. When stretching headlining, use masking tape as shown to prevent unraveling.



FIXING torn or loose headlining is generally a touchy problem. Here are a few tips that have been offered by the Plymouth service department for making repairs without removing the headliner. This procedure refers to a rip which is located close to the edge around the weather cord. In this case, there is a simple method of repair which can save a great deal of time and expense. This method is also handy on jobs where the headlining has come loose from the retaining hooks at the edge, due to shrinkage or some other cause.

The headlining is unloosened from the retaining hooks by inserting a clean putty knife at the seam between the weather cord and the headlining. Use the putty knife to pry the retainer back and unhook the headlining from its retaining hook. In many cases, there is very little extra headlining loose to provide a surface for hooking onto the retainer when reinstalling the headliner. If this is the case, more gripping edge can be obtained by tearing the listing by hand to reduce the curvature of the cloth. If too much listing is torn, the shape of the headlining will be altered noticeably, so this should be avoided. Another method of increasing the gripping area is to hand sew and cement (with trim cement) a strip of material along the edge of the headlining. This should be done

(Continued on page 106)



"If they're good enough for the car maker
they're good enough for me"

"The main part of my business is car repair, and I don't believe there's a more dangerous livelihood—at least dangerous for my reputation. The way you serve a customer can make or break you. That's the main reason I've been such a booster for factory replacement parts. Original factory parts protect my workmanship and help assure better service work. I've always said, if they're good enough for the car maker, they're good enough for me."

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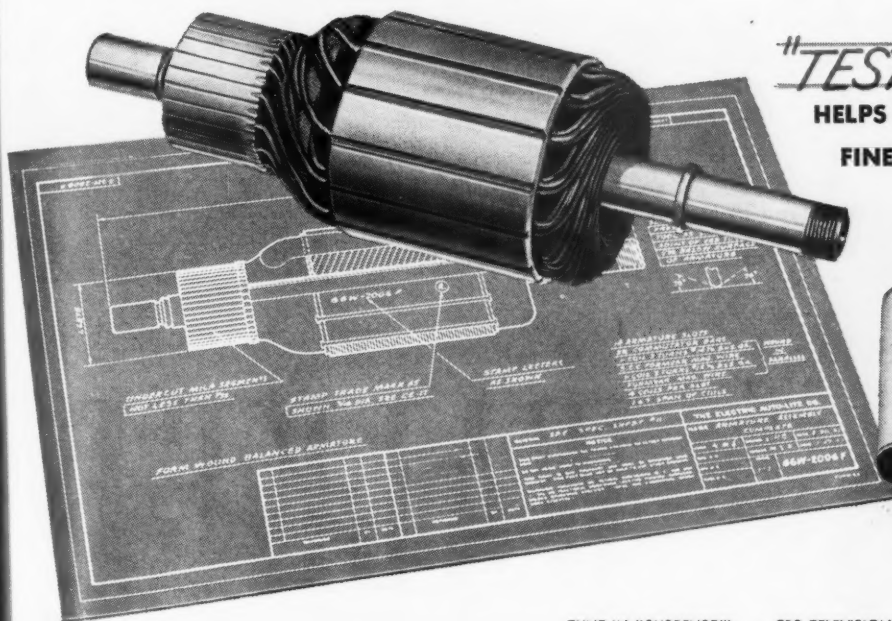
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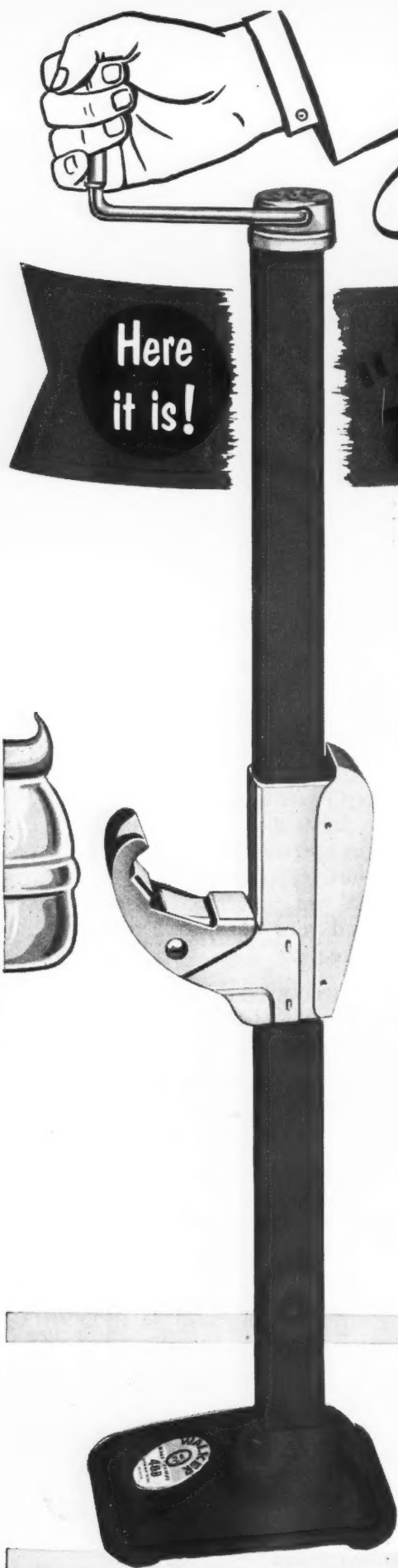
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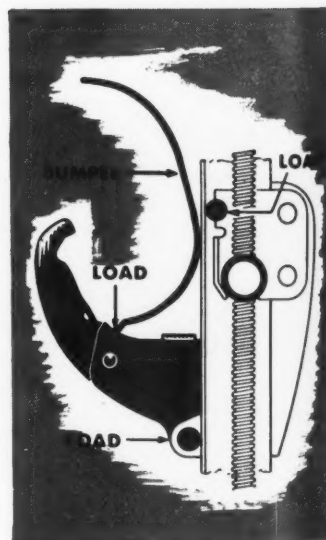
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"Adjust-O-Matic" LIFTING HOOK

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makes lifting extra easy!

Lifting effort is reduced to a minimum by an exclusive "counter-acting" roller principle in the lifting mechanism of this great new Walker Bumper Jack. When a vehicle is lifted, the load is transferred to two special counter-acting, friction-reducing rollers which travel against the inner and outer surfaces of the "U-Channel" supporting column. This eliminates unnecessary frictional drag, and with the "bearing-cushioned" suspended screw assures smooth, easy lifting.



WALKER

NEW WALKER "400"

**NEW "Counter-Acting" Roller Principle
Actually Reduces Lifting Effort
as much as 47%!**

● Once again, Walker engineering hits the "jack pot" with the new Walker "400"—the *easiest-to-use* bumper jack to ever ride under the rear deck of an automobile.

Here is a bumper jack with real sales appeal—it's loaded with sound, practical "customer-catching" features . . . the great, new friction-fighting "Counter-Acting" Roller principle *actually reduces lifting effort as much as 47%!* . . . the new "Adjust-O-Matic" lifting hook, automatically adjusts itself to the contour of any bumper . . . prevents bending and damage . . . positive "Safety Screw" lifting action prevents sudden drops or handle "whips" . . . and it's top operated by a convenient, easy turning "Blister-Free" handle.

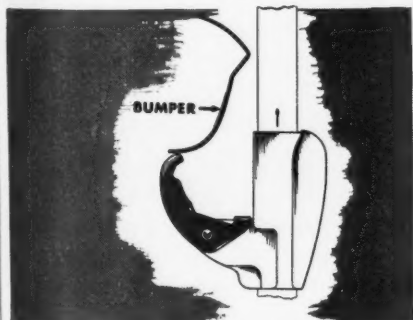
The new Walker "400" is a real investment in easy lifting . . . safety . . . and reliability . . . and your customers will like the price.

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Walker Jacks, Exhaust Silencers, Oil Filters, Electric Lifts

**Plus many other
outstanding features
that almost make tire
changing a pleasure!**

- "Bearing-Cushioned" Suspended Screw
Reduces handle effort—makes lifting smooth, easy.
- Comfortable "Blister-Free" Handle
Permanently attached at top of jack for convenience, safety, ease of operation.
- Positive, "Safety-Screw" Lifting Action
No sudden "drops" or handle "whips"—assures positive load control at all times—up or down.
- Large Integral "Gravity Centered" Base
Centers the load for safer lifting under all conditions—permanently attached to lifting column for greater stability.
- Extra Strong "U-Channel" Support Column
Prevents sway or deflection under load.

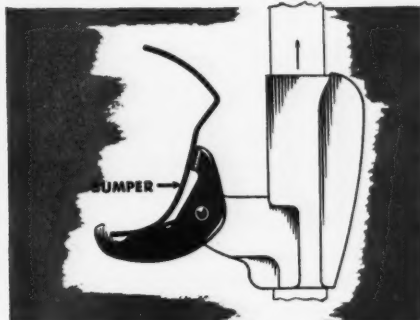
HERE'S WHY THE "ADJUST-O-MATIC" LIFTING HOOK FITS ALL BUMPERS—PERFECTLY!



The new Walker "Adjust-O-Matic" lifting hook automatically adjusts itself to the contour of deep skirted bumpers—providing a firm, two-point lifting contact



which prevents bending and damage. (A) shows point of contact between bumper and swinging portion of hook. As jack is raised further, bumper causes



hook to swing downward (B) until bumper is fully cradled by hook (C). Completely universal . . . fits all bumpers firmly and safely.

Leads in Jacks





Use Sandpaper to Remove Foreign Matter from Fabric

I have found a method for removing foreign matter from the fabric of automobile interiors. We all know how annoying and tiring it is to try and remove dog and cat hairs. I found that if one takes a full sheet of No. 2 sandpaper and holds it firmly by one edge and drags with the grain of the fabric in long strokes that the paper will collect all the hairs and other loose material in the fabric and also restore a new finish to the fabric. The paper can be used repeatedly. *David Tompkins, Old City Motors, 283 San Marco Ave., St. Augustine, Fla.*

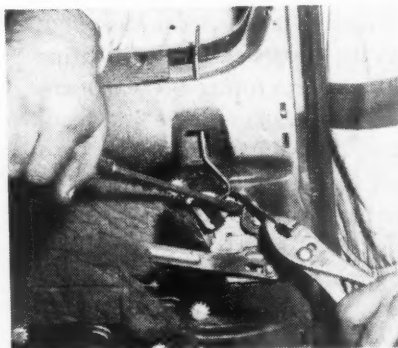
Dum-Dum Helps Prevent Buckling When Welding

On replacing outer door panels we have had trouble with panels buckling when welding at the joint. I have found that by placing strips of body dum-dum about 6 in. long x 1 in. wide on each side of the seam to be welded. This will stop buckling. The strips can be used over and over again, so it is very inexpensive. *William E. Barth, Chester B & J Garage, Chester, N. Y.*

Replacing Door Lock Springs on Chevrolets

Here is a short cut on replacing door locks cam springs on 1941 and 1948 Chevrolet passenger cars. First remove the garnish moulding. Next loosen the upper corner of the upholstery which will expose the door panel which houses the door lock. Then take a pair of

pliers and bend outward the corner of sheet metal that covers the door lock spring. All that's left to re-



move is the broken spring and install the new one. *Clarence Gross, Northern Chevrolet Co., Thief River Falls, Minn.*

Brake Fluid Aids in Replacing Chrome Moulding

After installing a new windshield glass, trouble is often encountered in replacing the chrome molding which slides into a groove in the rubber surrounding the glass. Our most recent tough one

was on a 1947 Studebaker. We did not have a regular rubber lubricant handy, so the brake fluid was used. This works very well, and the rubber is never harmed, as it would be if any oily lubricant were used. *John Butler, 1142 East Sixth St., Monmouth, Ill.*

Tape on Sanding Disc Will Make It Last Longer

An electric sander with a flexible rubber backing for the sanding disc soon tears the sandpaper at the center washer. By reinforcing the back of the sandpaper with a few pieces of masking tape around the hole before putting it on the sander, it will not tear out and the sandpaper disc will stay on until it is worn out. *William Cogeos, 168 Grand St., Croton on Hudson, N. Y.*

Welding Rod Handle on Nut Makes the Job Easy

The top window channel bolt on 1949-1951 Fords frequently shakes loose and falls out causing quite a rattle in the door. To replace this bolt, I tack weld a small welding rod to the side of the nut and place it in the small opening along side of the glass and tighten the screw from the outside. This nut is difficult to replace by hand even from inside the door with the inner panel removed because of the close quarters at this point. But with the length of the rod welded to the nut, it can be placed in line with the bolt with ease. A few wiggles will break the weld after the bolt is tight. This can be applied several places where there is not much hand room. *Raymond Robertson, Box 221, Westville, Ind.*

BODY SHOP TIPS are worth

\$7.50

If you've developed an idea that has helped you to do body and fender work or painting better or faster, it may be worth money. Jot down the idea and, if necessary, make a rough sketch. Sometimes a snapshot will help. Just make the description of your BODY SHOP TIP clear, and if it is used, you'll receive a check for \$7.50.

HEIN-WERNER "PUSH and PULL" HYDRAULIC JACK



Pump operates at any angle...does not become airborne



HEIN-WERNER CORPORATION
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The Hein-Werner line of hydraulic jacks is COMPLETE! It includes Under-Axle Jacks of 1½, 3, 5, 8, 12, 20, 30, 50 and 100 tons capacity . . . "Bumper-Lift" Hydraulic Jacks for passenger cars . . . "Swift-Lift" and Service Jacks for shop use . . . Cylinder Sleeve Pullers.

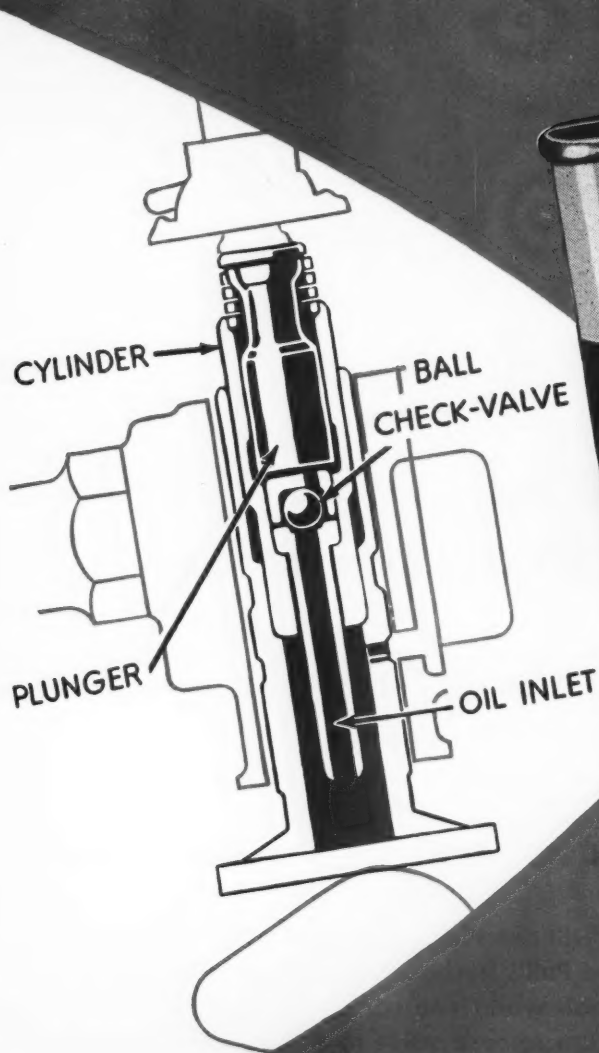
You, too, will like the ease of operation of Hein-Werner "Push and Pull" Hydraulic Jacks for body, fender, and frame repair work. You can push or pull with one ram . . . just turn release valve to right or left. Pump operates in any position.

For example, note the convenient operating angle position of the pump in the above photograph of an actual job. Here a 10-ton capacity "PUSH and PULL" is being used to take strain off side panel while 4-ton capacity "PUSH and PULL" is being used to exert pressure to remove bumps.

Hein-Werner "PUSH and PULL" Jacks are available in 4, 10, and 20 tons capacity, with a wide variety of attachments.

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CAUSED BY DRY STARTING

How Carbon Deposits Affect Engine Firing

USING a high speed camera, Dr. L. L. Withrow and Dr. F. W. Bowditch of General Motors Research Laboratories recently produced a photo record of the entire engine flame cycle in combustion chambers deliberately crusted and flaked with carbon in a V-8 and two single-cylinder laboratory test engines.

Outfitted with transparent quartz heads through which photos could be taken, the engines were run at low speeds under light load conditions, similar to the stop-and-go driving every motorist endures in city traffic.

In normal automotive engine combustion, the air-fuel charge from the carburetor is ignited by the spark plug and the flame fans evenly across the chamber until the charge is completely and smoothly burned. It is like the sweep of a grass fire from one side of a field to the other in a high wind.

In a combustion chamber coated with carbon, Dr. Withrow and Dr. Bowditch demonstrated, the flame's symmetry is distorted or conspicuously absent. As a result, ignition timing is neutralized; the spark no longer controls firing of the air-fuel charge.

"Mechanical octane" numbers designed into the combustion chamber begin to depreciate. In effect, the air-fuel charge pops off before it is supposed to, and this subtracts from the engine's efficiency and fuel economy.

Obvious result to the car owner is that his engine operates roughly or may "ping" when quickly accelerated in traffic.

Photos of carbon coated combustion chambers show that before the normal spark from the sparkplug can inflame the air-fuel charge, the charge sometimes ignites in a galaxy of tiny explosions, either from hot carbon particles shaken loose in the turbulent gases or from hot carbon flakes sticking to the chamber walls.

Although these explosions and erratic high pressures rob an engine of efficiency, they are not an unmixed curse. They are part of a process by which engines purge themselves of carbon, the photos revealed.

Carbon particles cause trouble in transit, so to speak, but they are on their way toward an exit, the exhaust manifold.

Particularly significant, Dr. Withrow and Dr. Bowditch said, was photographic evidence indicating that decomposed products of leaded fuels were not the only cause of autoignition (engine combustion by other means than the normal spark from a sparkplug).

"A few years back, many car owners made a practice of purchasing a tank of Ethyl gaso-

(Continued on page 80)

Carbon Deposits . . . Continued from Page 79

line at intermittent intervals to burn the carbon out of the engine," they said. "The present data together with the known chemical facts about the behavior of mixtures of carbon and lead compounds indicate that the lead salts left in the engine by the Ethyl gasoline are indeed capable of purging substantial amounts of

carbon from the engine under some operating conditions."

Also, the two GM Research experts said, deposits formed by non-leaded fuels will purge themselves, thanks to traces of chemical substances in the air. Entering through the engine air intake, these substances not only lower burning temperature of carbon

but also speed chemical reactions between carbon deposits and oxygen in the air.

Another important phase of this GM Research investigation was to track down so-called "wild ping."

This is a type of knock that occurs in some carbon coated engines when a motorist accelerates suddenly in traffic. "Wild ping" is spontaneous—not the usual xylophone sequence of ordinary hill climbing or steady acceleration knock.

Dr. Withrow and Dr. Bowditch observed photographically that while a test engine was run at idling speed, carbon flakes in the combustion chamber glowed a dull red. "But as soon as the throttle was opened," they reported, "the space in the combustion chamber was filled with glowing particles which reminded one of fireworks."

This "ping" or knock followed the dislodging of deposit particles which became hot enough by themselves to ignite the incoming air-fuel charge. Before spark inflammation could occur, the chamber was alive with small explosions.

Other types of autoignition also were photographically investigated. For instance, Dr. Withrow and Dr. Bowditch let an engine run without electrical ignition after it had been well coated with heavy deposits.

In these photos, also, either hot particles whizzing through the gaseous charge or particles clinging to the chamber walls automatically ignited the air-fuel charge. The explosions, like those of "wild ping," conformed to no definite shape or pattern.

Dr. Withrow and Dr. Bowditch pointed out that if carbon deposits never purged themselves, the combustion chamber of an engine would fill up with solid material and require mechanical attention.

"Thus," they said, "it is apparent that in the process of eliminating one problem, the deposit removal introduces another in the form of autoignition."

They explained that "general distortion" of the flame in the combustion chamber usually resolves itself into a race of normal engine spark versus autoignition.

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WHEEL SUSPENSION PARTS

The Ferraris Continued from Page 53

\$3,000; independent suspension on all four wheels with A-arms at front attached to a full transverse spring, and a DeDion rear. Torque stress at the rear is taken up by simple yet clever parallel radius rods.

The Ferrari brakes are huge, though dished out to allow the mounting of Boranni-Rudge rac-

ing wire wheels. The cars are also supplied with five speed gear boxes with the transmission located at the rear axle. With an engine output of a true 375 hp, the Indianapolis-type job was said to be nearing the 200-mph mark on a long straightaway at the famous Monza road course in Italy. Coupled with all this is an engine speed which is

much lower than any other high output racing unit in the business.

It must also be said that the Ferrari had enjoyed such a powerful reputation in European road racing circles that their success at Indianapolis was clearly anticipated.

However, theory does not make a car perform. The slide rule artists were proved completely wrong and it took the latest version of a twenty-year-old American design, the Meyer-Drake 270, to show them why.

When the Italians arrived in this country with their factory-prepared car, to be driven by Ascari, some stateside friends were struck by their almost cocky appraisal of the task ahead. This self-assurance may well have been their first mistake, though it was, perhaps, justified on the basis of their past record.

Their plan, they said, was simple. They intended to use a near-stock Ferrari engine for practice and qualifying and then, having posted a speed in the high-130's, they were going to install the really hot combination for the race.

After arriving at the Speedway, Ascari was quite good-natured about the driving test required of him by the Contest Board of the AAA, something demanded of all newcomers to the bricks. The former world's, and almost perennial Italian, champion seemed to get along fine on the 2½-mile course after he learned that there was no need to go down through the gears in the corners. He passed his exam with ease and great regularity. But not until an attempt was made to better 130 mph was the sad truth revealed. The Ferrari couldn't do it!

As the worried frowns increased around the Ferrari garage, the two Johns, Parsons and Mauro, and a succession of other American drivers in the three non-factory cars were finding that the Ferrari bubble had burst. So the Ascari car was torn down, the race engine mounted and the gear ratio altered. With this combination and with the pilot clenching his teeth, the Ferrari wound up a lap at over

(Continued on page 84)



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The Ferraris Continued from Page 82

132 mph and was thought ready for a do-or-die qualifying effort.

Ascari proved himself every bit a champion in his trial against the watch. With amazing consistency—two laps were recorded at exactly 134.328 mph—the Italian ace kept his foot on it and the lone Ferrari made the field.

His subsequent fortune in the

race is now known. Though warned to use magnesium wheels in the race by some Americans, the car went off with the Rudge type. At 100 miles, the right rear wheel collapsed sending Ascari to a comfortable seat under a tree in the infield. From this point, the Italian entourage watched young Troy Ruttman wrest the lead from Bill

Vukovich at the 480-mile mark to come home a jubilant winner.

So let us ask a rhetorical question, "Did the Italians learn something?"

Without a doubt, they learned plenty. They learned, first of all, that one must respect the ingenuity and mechanical wizardry of the American race car builder and his drivers. Lampredi, chief designer for the Modena, Italy, firm was the first to say this.

They learned further that their beautiful chassis design, assuredly the best road course layout in the world, was at a complete loss on the Speedway. American drivers reported tremendous power loss in the turns due to lack of shimming and a Z-F limited slip differential. The slippage in the wheels resulted in one American driver (who had a ride in the Ferrari) saying that he liked Ascari and hated to see him in the race where his car would probably beat him to death. It's likely that the Italians, if they return, will have greater rigidity at the driving wheels.

In addition, they have learned that a five-speed gear-box is utterly needless on a course where sustained speed driving is a necessity. They have also learned that wire wheels have "had it" as far as the brickyard is concerned, particularly when this type of wheel is mounted on a chassis which is not shimmed for a left turn only.

Americans have also advised them that their cam design is great for road racing but lacking in "oomph" at the Speedway. Clay Smith, a mechanic who is about as well known in racing circles as the top drivers, feels that a higher lift cam coupled with higher compression will make the present American-owned Ferraris a definite threat in 1953.

One thing is sure. Signor Ferrari is not a man easily licked. Many feel that it will not be long 'ere a car specifically designed for the "500" and employing, of all things, a 270 cu. in 4-cylinder engine, will be off the drawing boards and ready for Indianapolis come some May 30th. The racing profession sincerely hopes that international interest in American competition will continue.



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Remember . . . "rods are hot" . . . the hottest market for repair work today! So see your jobber now about the No. 232 deal, or write Van Norman Company, Springfield 7, Mass.

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Packard battery cables are used as original equipment on more cars, trucks, buses and tractors than cables of any other make. Packard battery cables are full size, full weight . . . are available with LEADALLOY terminals or leaded brass terminals. Both types are packaged in individual cartons—both deliver top performance—both have acceptance, everywhere.



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Employee Policy . . . Continued from Page 59

around.

The Quaden firm frequently shows movies on selling and servicing automobiles, at which time all employees are invited to attend. A special basement room is provided for such purposes.

The Quaden firm employs three salesmen, and John W. Quaden, president, and Earle P. Olson, vice

president and general manager, both feel that a few good salesmen are better than many average ones. Under the Quaden plan, the three salesmen have more prospects to work on in the area, and thus are enabled to earn more money.

Policies like this, keyed to the employees' welfare, have made a

big impression with Quaden employees, with the result that labor turnover is very low. If an employee becomes dissatisfied, he is given every opportunity for a fair hearing. Edwin Pochowski, general shop superintendent, Mr. Quaden and Mr. Olson get the facts and consider them from the employee's standpoint as well as from management's angle.

Employees also like the 14 hoists which the Quaden firm has installed at a cost of about \$1100 each. There are 12 hoists on the service floor and two in a basement body shop. Tests made by the Quaden firm, before and after installation, reveal that there is about a 30 per cent mechanic production increase with the use of the hoists. Mechanics are able to perform practically all repairs on a car without taking wasted steps and operations, or turning a car over to another mechanic for special services.

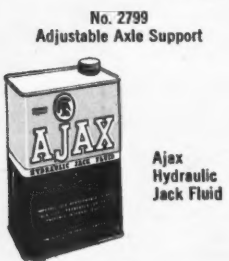
An example of co-ordination between salesmen and service shop is seen in the telephone solicitation campaign of the company. The three salesmen and Mr. Quaden and Mr. Olson use the telephone daily in contacting car owners owning 1947 and later models. If the car owner (whose name is secured from state registration lists) is not interested in trading for a later model car, the salesman always mentions the Quaden service department and invites the motorist to come in
(Continued on page 88)



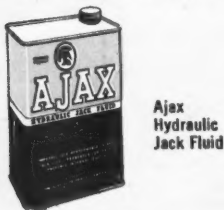
No. 2784 4-Ton Hydraulic Service Jack



No. 2767 1 1/2-Ton Hydraulic Quick Service Jack



No. 2799 Adjustable Axle Support



Ajax Hydraulic Jack Fluid



"THE COVERAGE LINE" OF FINEST QUALITY JACKS



Here's modern, trouble-free lifting equipment for every job—in the shop, on the driveway, out on the road. Here's the dependability that gives you a higher standard of service . . . the speed that increases your margin of profit . . . the uniformity that eliminates confusion and maintenance expense.

Rugged, fast-acting Ajax hydraulic service jacks—in 1 1/2-ton and 4-ton capacities—give you fast, safe, efficient service in lifting one wheel or an entire end.

Famous Ajax "Silver Horses"—low-cost, heavy-duty, adjustable axle supports—release your valuable jacks for use on other work. Their large, stabilized bases allow your mechanics to work in absolute safety.

Jack fluid and other service items, plus finest bumper jacks and portable hydraulics, round out the Ajax line—making this your one source, your dependable source, for every jack need. See the complete Ajax line of time-savers and profit-boosters through your Ajax Jobber. Or write for catalog.

AJAX AUTO PARTS CO. • RACINE, WISCONSIN





DEXTER MOTORS LIKE COMMERCIAL CREDIT COOPERATION
 Shown here are Mr. Morris Greenman, left, Secretary-treasurer, and Mr. Meyer M. Lasker, President of Dexter Motors, Inc., one of New York City's largest Dodge-Plymouth dealers. This company has been in business since 1933, and has always

used the COMMERCIAL CREDIT PLAN on both new and used car sales. "COMMERCIAL CREDIT's service has always been excellent," says Mr. Lasker, "and their cooperation with us has been of great assistance in helping make more new and used car sales. It's a genuine pleasure to do business with COMMERCIAL CREDIT."



YEAR AFTER YEAR...Commercial
 Credit financing is complete,
competent, dependable

COMMERCIAL CREDIT CORPORATION

A subsidiary of Commercial Credit Company, Baltimore
 ... Capital and Surplus over \$125,000,000 ... offices
 in principal cities of the United States and Canada.



WHOLESALE PLAN HELPS DEXTER MOTORS KEEP STOCKS UP—This is the beautiful, modern showroom of Dexter Motors, Inc. COMMERCIAL CREDIT furnishes dealers with a complete package, including factory drive-away, wholesale, demonstrator and retail financing. A customer Car Repair Plan also helps dealers keep profits up when new car deliveries go down ... by helping them sell more and bigger and more profitable repair jobs.



UNSOLICITED MAIL HIGHLY GRATIFYING—Here are excerpts from one of the many letters COMMERCIAL CREDIT receives: "Your financing enabled me to own and operate my own business, employing 75 people ... I want to thank you for your service and your courtesy ... It is a pleasure for me to recommend COMMERCIAL CREDIT highly to my business friends."



WRITE, WIRE OR PHONE the office nearest you that offers COMMERCIAL CREDIT PLAN service. Millions of time buyers have used and like COMMERCIAL CREDIT PLAN. Let us tell you how this "brand name" financing can help you close more sales, contribute to your progress and profit.

Employee Policy . . . Continued from Page 86

and look around or to bring his car in for repairs or service. He is told of the fine daylight shop, the twin hoists, the contented, efficient shop crew, and all this sells many a motorist on Quaden service. Later, many of these service customers become car prospects and customers.

On car sales, the firm sold 302

new and 415 used cars last year and expects to do about the same volume of business this year. A 50-50 guarantee is offered with each car. The dealership puts about \$67 into each car taken in on trade, provided reconditioning does not include metal work. Reconditioning pays off here, for the firm's records show that sometimes

40 per cent difference in price on the same year models is shown on reconditioned, clean cars and "as-is" cars which have had heavy use.

A large number of repeat customers indicates that Quaden service meets with the approval of many car owners in the area. Quaden has been serving the area since 1940. In 1948 he began erecting a new, modern building, and in early 1951 it was in complete operation.

A used car office and display area is placed alongside the new car display room. The basement body shop, recently completed, enables the firm to handle complete repairs for customers' cars and in reconditioning used cars. A paint spray booth is in the body shop.

A fenced in customer car lot, an intercom system for all departments, a shop control tower, floor exhaust outlets and center area drains complete the modern service arrangements. Mr. Quaden reports that a modern, well equipped shop adds much to employee satisfaction.

Expensive Accessories Are Very Popular

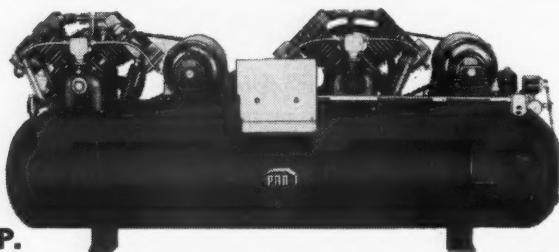
Success of automotive accessories designed to improve driver convenience and safety has been rather surprising in view of acknowledged sales resistance to high prices of automobiles. Power steering on General Motors and Chrysler cars has been accepted to the point that a limiting factor is availability of the units. The Autronic Eye, automatic dimming device offered by Oldsmobile and Cadillac, is in the same category. Oldsmobile currently is supplying the device on about 26 per cent of its cars and could sell a lot more if they were available.

Another interesting report we have is that a wheel supplier is attempting to interest manufacturers of high priced cars in a chrome plated wire wheel as optional equipment. The company feels that the wheels would be attractive to a certain number of buyers for their distinctive appearance, since they are widely used on European sports cars.

LYNCH CORPORATION PAR COMPRESSOR LINE

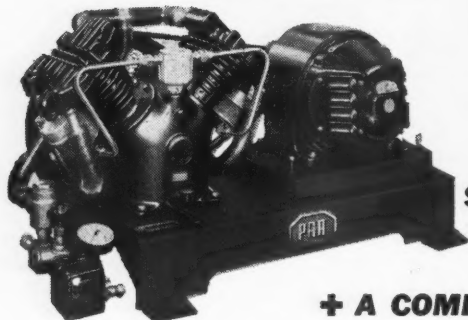
LARGE OR SMALL • VERSATILE • DEPENDABLE

**HEAVY
DUTY 10 H.P.**



WITH DELAYED STARTING CONTROL

**GAS ENGINE DRIVEN UNITS
SINGLE AND TWO STAGE—
FROM 1/3 TO 5 H.P.**



**BASE MOUNTED UNITS
SINGLE STAGE 1½ and 2 H.P.
TWO STAGE 1½ TO 5 H.P.**

+ A COMPLETE FARM LINE

BY COMPARISON — YOU'LL BUY PAR



PAR AIR
COMPRESSORS



PAR
REFRIGERATION
COMPRESSORS



WRAP-O-MATIC
CANDY & COOKIE
WRAPPING
MACHINES



MORPAC
PAPER PACKAGING
MACHINES



MORPAC
BUTTER & OIL
PACKAGING
MACHINES



GLASS FORMING
MACHINES



GLASS FORMING
MACHINES

Snap-on Ratchets

give you
DEPENDABILITY
and



● **Nut Turning Champ**... Snap-on's **Master Ratchet**... the smooth, fast, versatile wrench you'll find in the hands of top-earning mechanics everywhere! **A Lifetime Tool**... the high-precision ratcheting mechanism is built to withstand years of hard service, and is quickly replaceable at small cost. Half-inch drive takes every size of socket from $\frac{3}{8}$ " through $1\frac{1}{4}$ ". With Universal Joint and Extensions, it handles the widest range of nut turning operations in automotive servicing. Let your Snap-on Man show you the Master Ratchet and its companion handles, sockets and extensions, or write for the complete 104-page catalog of 4,000 Snap-on tools!

SNAP-ON TOOLS CORPORATION

8036-H 28th Avenue, Kenosha, Wisconsin



*Snap-on is the trademark of Snap-on Tools Corporation.

"I Snared Success with a Shoestring"



... says Paul

A true story. Reading time: 1 minute.

"Sure you need capital to start a business," Paul McGlone will agree.

"How much? Well, that depends. In my case, about fifteen dollars!"

Fifteen dollars to build the kind of Dodge dealership Paul has? Is it possible to build Paul's way of life on a shoestring?

Let's let Paul tell it.

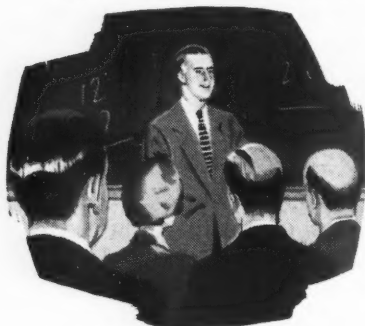
"Life was pretty simple where I was born in Kentucky ... delivering papers, helping Dad, caddying on golf courses.

"Anything that had to do with cars I liked. So eventually I worked for an automobile body company. Being a fairly expert repairman, I fixed cars on my own time ... and added the extra cash to the money I saved from my pay check. 'Capital' was slowly accumulating.

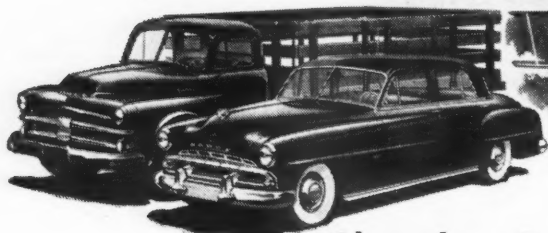
"But when business slumped, my job ended. Eventually I made the toughest decision of my life: I invested \$15 from the last of our savings in an old car that wouldn't run.

"That was the turning point of my life. I fixed the car and sold it. I was in business! I repaired and sold 'jalopies' until I had enough capital for a dealership! There were mistakes, but I learned. One car I handled was priced too high. Another was short-lived. So when my chance came to take over a Dodge dealership it was my big opportunity ... dependable cars and trucks backed by sound management and preferred by so many people.

"I won't try to pretend I'm not well satisfied with my career. I employ people, serve customers, and otherwise participate in the activities of my community. And I pay taxes, too, of so many kinds, like everybody else! It's not the easiest life ... it's not the duller either. Not bad, I say, for a 'shoestring' start!"



A booklet of true stories about enterprising men like Paul McGlone is yours for the asking. Write Chrysler Corporation, Highland Park 3, Michigan.



Chrysler Corporation

PLYMOUTH • DODGE • DE SOTO • CHRYSLER • DODGE "Job-Rated" TRUCKS

Fine Cars of Great Value

Parts Volume

Continued from Page 63

come to \$16.50. In that case, he will receive three tickets. By spending an extra \$3.50 he will receive four chances. This extra \$3.50 that he spends now amounts to pure plus business for us."

But wouldn't he buy this later?

"No!" Armstrong answered. "Chances are that he would pick up these parts from a source of supply nearer to his shop. In all probability, he would not make the extra effort to patronize us."

This plus volume really adds up in dollars and cents. For example, October is always a better month than December. The October parts volume amounted to \$46,319.76. The contest put December ahead of this figure by a full 20 percent, in spite of the fact it is a slower month. The prizes, then, boosted the dollar volume up over \$9,000. And this is a conservative figure.

"This is not an attempt to match this year's figures with last year's," said Armstrong. "We are operating in a different set of circumstances from last year. Prices have advanced. Meeting last year's figures means nothing, absolutely nothing. What we are trying to do is to maintain and hold our unit sales on both parts and accessories. And it requires some promotion to enable us to accomplish

(Continued on page 92)



"He's one of those all-around mechanics—all around the neighborhood."

**"Purelube improves engine performance...
I made the 'hidden name'
test and proved it!"**

**Says C. Bailey, mechanic, O'Shields Buick,
Decatur, Georgia**

Mr. Bailey, one of the 170 service experts who made this test, drove his 1948 Kaiser 1,000 miles without knowing the oil he was using was Purelube, the sure motor oil.

Like 9 out of 10 test experts, he found using Purelube improved his engine performance.

His report reads: "At the beginning of this test I had a valve sticking and after the test oil was put in the valve has not been heard or given any more trouble. My car did not use any oil for 1,100 miles."

The men who know motors best confirm what scientific laboratory and road tests already have proved:

Purelube, the sure motor oil, is superior in the whole combination of qualities needed to keep an engine clean... efficient... longer lasting. (Actually, Purelube meets and exceeds "heavy-duty oil" requirements of passenger cars.)

Satisfy your customers and build profitable repeat business. Use Purelube in your service department and recommend Purelube when you sell a car.

Remember, car dealers who stock Pure Oil products get free service... sales... and advertising helps under Pure Oil's business-building Plan for Car Dealers.

See your Pure Oil salesman or call your local Pure Oil office today.

The Pure Oil Company • General Offices: 35 E. Wacker Drive, Chicago 1, Illinois.

**Be sure
with Pure**



Pure Oil's complete car dealer line, headed by Purelube, the sure motor oil, includes high-quality oils for house branding, approved automatic transmission oils, gear and chassis lubricants and TBA.

Purelube

THE SURE HEAVY-DUTY OIL FOR PASSENGER CARS

our purpose."

While there are numerous types of contests, the simple, easy to operate ones are the best.

In this contest, as the purchases are made, the counter clerk issues the correct number of cards to correspond with the amount spent. Whoever buys can fill out the cards then and there and deposit

them in the large cage-wheel from which the drawings will be made. Or . . . they can be taken home and deposited at a later date. Out of town customers can either mail in their cards or bring them in before the closing date.

To start off the contest, form letters are sent to all customers. Counter men were instructed to

try to up each purchaser's order to make an even multiple of the \$5.00 minimum.

Usually these contests run through the month.

At the previous drawing some 50 customers were present. This was a means for the owners who seldom get to see their customers to get acquainted and renew acquaintances. A good customer relation stunt in itself.

"These little stunts," Armstrong concluded, "always pay off. The customers, seemingly, never tire of them. We never have duplicate prizes, thinking it would slow down the appeal. New prizes create a new interest every time."

Ford Gets Development Job for New Vehicle

Ford Motor Co. has been given a contract to design, construct, and test a new quarter-ton 4-wheel-drive military vehicle. Under an earlier contract, Ford has been awarded a development program and has come up with a design for a completely new vehicle with new engine, chassis, frame, and body which is said to be lighter, sturdier, and to have better performance than any similar vehicle now produced. The \$2.5 million contract calls for building and testing five prototype vehicles, but it must be remembered that initial development costs never bear any relationship to actual costs of vehicles in production. The contract calls for delivery of a prototype of a new vehicle within 24 months. The experimental vehicles, which will bear the designation M-151, will be built in the Detroit area.

Reo Six Months Net Reaches New Record

Reo reports a new sales record and the greatest profit before taxes for any six months period. For the first half of this year the company earned \$1,921,000 after taxes, compared with \$1,759,000 for the corresponding period a year ago. Indicating the tremendous bite taken by taxes, earnings before taxes amounted to \$6,761,000 the first half of this year.

TWO NEW

all new stat assortments



THOMSON THERMOSTATS

Electro-fused for Extra Dependability

Used as Original Equipment by Major Car Manufacturers

No. 2055



THOMSON THERMOSTATS

Electro-fused for Extra Dependability

Used as Original Equipment by Major Car Manufacturers

No. 2056

Here's everything *any* dealer needs to get in the stat business this fall—in a big way! Assortment No. 2055 contains 24 genuine Thomson stats, in the temperature settings most often called for. No. 2056 contains 24 stats—all high and medium high temperature for fast fall turnover. Either way, these Thomson assortments are packed for profit . . . each covers 90% of all cars

. . . each includes new-type wall chart, window banner and price sheet in an improved counter display carton. Order now—from your NAPA Jobber.

STANDARD-THOMSON CORPORATION
DAYTON 2, OHIO



Sell Thomson—the most complete line in the thermostat business!



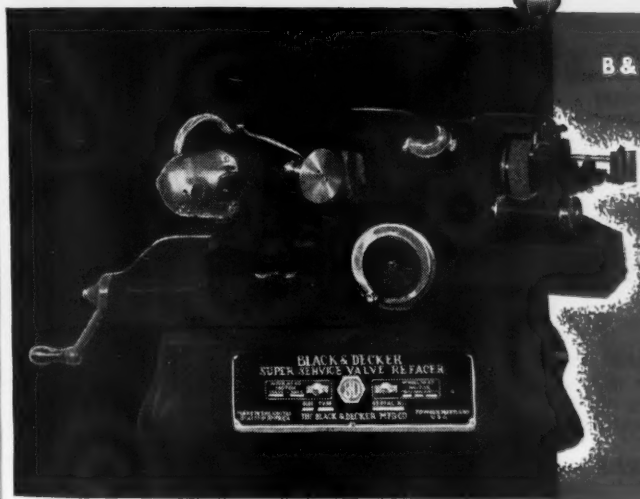
For finer, faster VALVE JOBS...

Switch to **BLACK & DECKER POWER!**



B&D VIBRO-CENTRIC® VALVE SEAT GRINDER

is fast, accurate, foolproof. Concentric grinding insures correct alignment, mirror finish. Vibrating action reduces stone wear, prevents stone loading. Powerful, yet light in weight. Available in complete kits offering assortments of equipment for all the most popular cars or for special groups of cars, trucks and tractors.



B&D DELUXE SUPER-SERVICE VALVE REFACTOR

is equipped for complete job, no extras to buy! Requires no complicated adjustment. Permits traverse grinding of any angle valve face from 0° to 90°. Handles all popular stem sizes, head diameters. Quick-clamp collet for faster operation. Wet grinding at both wheels.



WITH motorists in the market for overhauls before punishing winter driving weather sets in, now's the time to get the equipment you need to make these jobs pay a profit! And nothing else can hold a candle to Black & Decker Valve Reconditioning equipment in paying off on perfectly matched, gas-tight valve assemblies!

It's designed for years of dependable service, correctly engineered, precision-

built... to get jobs done faster, to get them right the *first* time, to help you make more profits! See your nearby B&D Distributor for a demonstration. Let him show you why it pays to "Switch to Black & Decker POWER!" Write today for free catalog to: THE BLACK & DECKER MFG. CO., 627 Pennsylvania Ave., Towson 4, Md.

*Trade Mark Reg. U. S. Pat. Off.



Tuning the MG Continued from Page 44

removing the rotor.

Initial valve timing should be checked with number one (front) piston at top dead center. Recommended setting for use with premium fuel is $\frac{1}{4}$ inch advance of the timing mark. A metal pointer on the timing chain cover and a notch in the rear flange of the crankshaft pulley serve as tim-

ing marks. Performance can be checked on the road, and sometimes the timing advanced even more than mentioned above without a rough idle or pinging.

To make tappet adjustments, remove the valve cover, which is retained by two "hand-tight" nuts. Tappets are adjusted with the engine warm, but not running. Both

intake and exhaust are set the same, and clearance recommended depends upon the way the car is driven. If the driver "chases" the car fairly hard, and demands top performance at the expense of a little tappet noise, set the tappets at .022 in. If he's not particularly heavy-footed and wants a quieter running engine, .019 in. is best.

The MG uses twin S.U. carburetors. For the most part, all adjustments on the carburetors can be made without removing any parts. They can be tested by backing out the thumbscrew on top of the dome and pulling it up about one inch. This raises the piston assembly and the main needle off its seat, making the carburetor inoperative. The engine should 'lope,' but continue to run on the other carburetor. Then return the piston to its correct position and repeat the test on the other carburetor. If one carburetor is not working properly, it will show up when its mate is made inoperative. Most carburetion complaints can be corrected by cleaning up the piston assembly. Remove the air cleaner and its manifold. Remove the damper assembly, which is held on by two screws (see fig. 3), being careful to avoid bending the needle. Wash the parts in a suitable cleaning solution to remove all traces of gum and varnish which accumulate due to deposits from the gasoline. Check the needle with a square to be sure that it is not bent. When the needle

(Continued on page 96)

... TUTHILL SPRINGS ...

FIRST

LAST

ALWAYS

For 70 years, Tuthill has been first in keeping pace with newest developments in the manufacture of replacement springs. Now . . . treated with **MOLYBDENUM DISULPHIDE (MoS₂)** . . . Tuthill is first to offer springs that won't squeak or gall!

Since 1880, only the finest quality alloy steel obtainable has been used in manufacturing Tuthill Springs . . . heat treated for greater strength, to take more abuse and last years longer!

Tuthill Springs are profitable to handle . . . always in demand because they're dependable and priced right.

To get premium quality without paying premium prices—whether it's a spring for heavy-duty trucks or easy-riding cars—you can rely on Tuthill first, last, and always!

Ask your Jobber for a **FREE** copy of our Car Application Wall Chart.



**TUTHILL
SPRING CO.**
760 WEST POLK STREET • CHICAGO 7



INDEPENDENT SERVICEMEN...

You get these 4 Big Benefits

when you deal with
your Chevrolet dealer
... your partner in service!

- 1 A well balanced stock of genuine Chevrolet precision-built parts, that
- 2 Help raise your service efficiency, and
- 3 Help increase your customer satisfaction; plus
- 4 Expert help in solving your service problems

Your Chevrolet dealer is ready,
willing and able to give you all

WORLD'S BIGGEST SERVICE MARKET

More than 1 out of 4
vehicles on the road is a Chevrolet!



Be prepared for this constant,
profitable service market by
ordering genuine Chevrolet
parts from your Chevrolet
dealer NOW!



Tuning the MG Continued from Page 94

is bent or out of line, it's best to obtain a new assembly from an MG dealer, as this part is extremely difficult to get into proper alignment. The slightest amount of binding of the needle as it moves up and down in its passage will cause faulty operation of the carburetor. The needles in both carburetors should be adjusted to

exactly the same length.

Proper action of the damping piston can be checked by moving it up and down with a wire which can be inserted through an access hole located on the side of the carburetor body. When the piston is raised and allowed to drop, the needle should be heard hitting its seat.

Mixture adjustments are made by turning the nut shown at "A" in Fig. 4 to the right for a leaner mixture and to the left for richer. On the forward carburetor, the return spring must be removed in order to get a wrench on the nut. To check for proper carburetor adjustment and synchronization, a vacuum gage can be connected into the intake manifold by removing the top stud on the carburetor mounting flange and installing a hollow stud. (It should be drilled out with a 1/4 inch drill and an appropriate fitting soldered on to it.) Then the vacuum gage can be connected to the fitting and the vacuum checked. Seventeen inches is recommended, and both carburetors should be the same.

Put a few drops of good machine oil in the column at the top of the carburetor dome (remove the thumbscrew) to assure proper action of the damper piston. Do not overoil.

Finally, clean and oil the air cleaners.

OTC

Announces

NEW 30 TON POWER-TWIN

hydraulic puller

**BIG BROTHER TO THE
FAMOUS 17½ TON
POWER-TWIN
hydraulic puller**

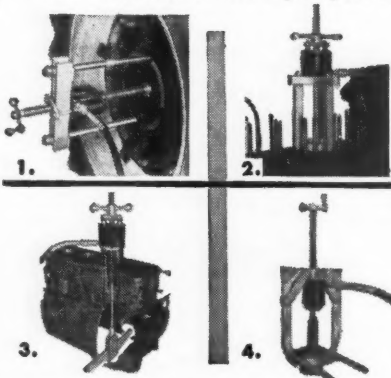
Really dynamite . . . that's the new, heavy-duty 30 ton OTC Power-Twin Hydraulic Puller. It's light and compact with safe remote control operation. It develops 30 tons of power with only 100 pounds of pressure on the pump. You'll be amazed at the ease and speed with which a Power-Twin will pull or install sleeves, bearings, races, gears, pinions, couplings, etc.

The new 30 ton Power-Twin pays for itself on one tough job. Saves hours of time, stops breakage of expensive parts and tools—a must for truck, tractor, bus or auto work. The 30 ton and 17½ ton Power-Twins are the only Hydraulic Rams for which complete assortments and ranges of pullers, attachments and adapters are available.

BOTH HAVE THE FAMOUS CENTER HOLE

Center Hole permits Power-Twins to do jobs thought impossible . . . fast, easy, unlimited adjustment . . . eliminates torque, friction . . . versatile interchange of parts . . .

- 1 Removing Tractor Wheel with the OTC Power-Twin, Push-Puller and two pair of 4½" legs.
- 2 Removing either wet or dry sleeves is simple with the OTC Hydraulic Puller.
- 3 Dry cylinder sleeves are replaced quickly without damage or distortion with an OTC Power-Twin and Sleeve Installing set.
- 4 Pinion Bearings are easily removed or installed with the OTC Power-Twin, Grip-O-Matic Puller and Bearing Pulling Attachment.



See your jobber for complete information or write to us . . . today.

OWATONNA TOOL COMPANY
321 CEDAR STREET • OWATONNA, MINNESOTA

Walker's Booklet Discusses Mufflers on Modern Engines

In a newly published booklet entitled "The Race for Horsepower," Walker Manufacturing Co. of Wisconsin presents some interesting facts about the methods used by silencing engineers to muffle the exhaust on modern high compression engines.

Four problems of silencing and muffler design are discussed in the booklet. 1. The back pressure problem. 2. The automatic transmission problem. 3. The problem of tail-pipe bark. 4. The problem of shell and pipe noise.

Reducing back pressure is, of course, of primary importance to obtain peak performance. As engines increase in power, the back pressure problem becomes more perplexing because of the increased velocity of the gases which pass through the exhaust system. One page of the book is devoted to describing and illustrating how a muffler was designed to reduce back pressure without increasing noise level.

Another tough problem along
(Continued on page 98)

"WONDER WHERE I CAN GET BEARINGS FOR THIS?"

"WELL, SON, IF YOU CAN'T GET 'EM FROM FEDERAL-MOGUL YOU CAN'T GET 'EM ANY PLACE!"



**YOU GET A
COMPLETE ENGINE
BEARING SERVICE
FROM YOUR
FEDERAL-MOGUL
JOBBER**

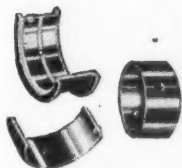
When your parts jobber carries the Federal-Mogul engine bearing line, you get *complete* service!

It's the broadest service bearing line, with

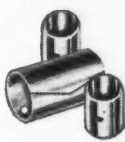
more part numbers . . . for more applications . . . than any other line.

And surveys prove that Federal-Mogul is the *best known* replacement brand of engine bearings! Ask your Federal-Mogul jobber!

**The COMPLETE
Engine Bearing
Service!**



Main, Connecting
Rod and Cam-
shaft Bearings



Bushings



Exchange Insert
Rods,
Rebabbled Rods



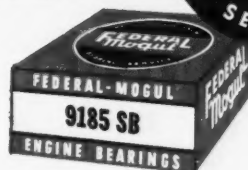
Bolts, Nuts, Shims



Federal-Mogul Service

(Division of Federal-Mogul Corporation)

DETROIT 13, MICHIGAN



Muffler Book Continued from Page 96

the same lines which came up recently was to lower back pressure (so performance could be increased without complete engine redesign) and without increasing the noise level. The newly designed exhaust systems which resulted from this challenge are illustrated and described. Both a single muffler system and a 4-muf-

fler, dual system are shown.

Number two problem, dealing with automatic transmission operating characteristics, is interesting. The hydraulic torque converter, for instance, when operating between 1200 and 1600 rpm at speeds from 0 to 40 mph, produces a sustained heavy power note that requires specific silencer design.

A different design is required for an engine equipped with a transmission of the Hydra-Matic type. As it goes through its gear changes, it causes the engine to operate in and out of its heavy power note range up to 40 mph. This creates multiple power peaks which again require special silencer design, the book explains. Cross-sectional views of the Walker Silencers made for these different jobs are shown with explanations of how they work.

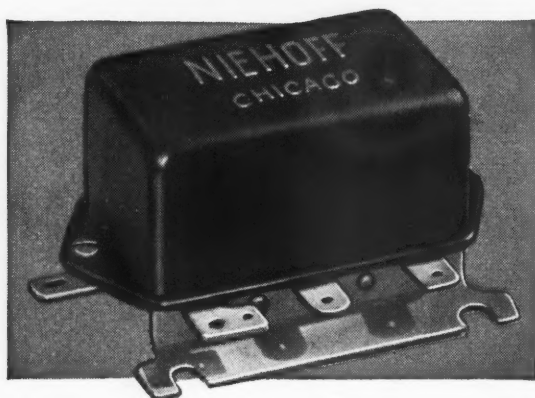
The problem of tail pipe bark is the result of heavier explosion pressures of the new high compression engines. Also, V-8 dual exhaust manifolding has increased the severity of the problem, Walker states. In another section of the booklet are shown several muffler designs which reduce this noise.

The intense explosion pulse of the high-compression engines with increased horsepower create difficult-to-control high frequency vibrations which may cause tinny, irritating shell and pipe noise. The booklet shows how shell construction can reduce this noise.

In these days of modern engine design, where everyone in the automotive field is faced with new problems, the booklet "The Race for Horsepower" gives us an interesting glance into the muffler industry to see how they have had to make changes to conform with engine design. The publication is available free of charge by writing Walker Manufacturing Company of Wisconsin, Racine, Wis.

NIEHOFF

WARRANTED IGNITION PARTS



*For
every car
and truck
you service*

Be Sure of real quality Thirty years of manufacturing "Know how" puts Niehoff quality and dependability out in front. You can buy no better.

Be Sure of repeat business Unique merchandising system gives you parts to service all popular makes and models of cars and trucks at small investment. Builds steady customers—high profit.

Be Sure of advertising support Niehoff consumer advertising features your service to motorists everywhere.

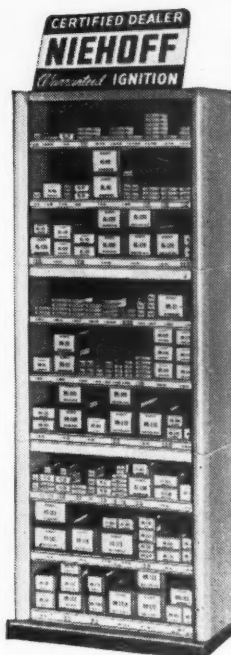
C. E. NIEHOFF & CO.

4925 LAWRENCE AVE. • CHICAGO 30, ILLINOIS

BRANCHES:

Boston 34, Mass., 254 Brighton Ave. • Los Angeles 15, Cal., 1330 W. Olympic Blvd.
New York 19, N. Y., 250 W. 54th St.

C. E. NIEHOFF & CO.
30th Anniversary Year



Ask your jobber's salesman
for details or write to factory



"It's been squeaking!"

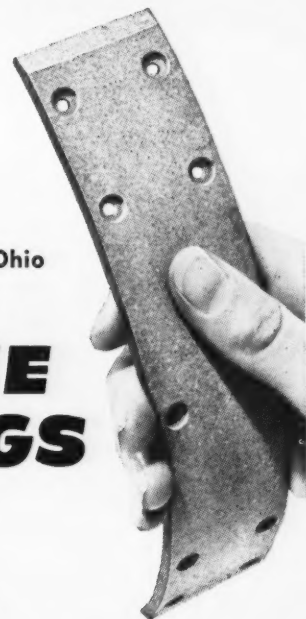


You sell safe braking
when you sell Inlite

LINING

Most often it's the *lining* you sell that applies the pressure, produces the stop. And for smooth, quick, *safe* stops . . . with any vehicle, in any service . . . the lining is INLITE. It's one-quality, top-quality . . . compounded for *each* brake on *each* vehicle . . . and made in matched sets. A General Motors product, tested at the Proving Grounds! Sell it . . . for bigger profits!

INLAND MANUFACTURING DIVISION • General Motors Corporation • Dayton, Ohio



INLITE BRAKE LININGS

A GENERAL MOTORS PRODUCT



A UNITED MOTORS LINE

DISTRIBUTED BY WHOLESALERS EVERYWHERE

Rubbermaid® KAR-RUGS



America's Fastest Selling Auto Accessory Is HOTTER THAN EVER!

More cars on the road than ever before — more "care for your car" interest — more potential buyers that READ about and WANT Kar-Rugs. Kar-Rugs are *your* fast turnover line for big volume accessory sales. They have utility — beautiful color attraction — economical low prices. For that *extra* profit concentrate on Kar-Rugs. Kar-Rugs have a volume market, and the merchandising program to enable you to really cash-in on this profit opportunity. Don't wait — start getting your share now!

Win valuable prizes in the KAR-RUG PRIZE AWARD PLAN

... Ask Your Jobber for Complete Details.

NEW!

DESERT TAN COLOR

Kar-Rugs continue to set the pace, offering car owners the largest selection of beautiful, rich colors for today's modern automobiles.

Silver Grey
Cocoa Brown
Forest Green
Midnight Black
Burgundy Red
Royal Blue
Desert Tan



Sales Proven Display

A compact attention-getting display that carries a complete size and color assortment. Gets Kar-Rugs out front where customers see them—and buy them. This display in a prominent traffic spot will produce fast sales turnover.

W!



NEW!

LOW PRICES

Now you can offer quality, nationally-known Kar-Rugs at these new, low, popular prices. You make maximum profit margin.

- No. 1452 Size 16"x18" **\$1³⁹**
Retail
- No. 1454 Size 18"x21"
No. 1455 Size 15"x25" **\$1⁷⁹**
Retail
- No. 1459 Size 18"x26" **\$2¹⁹**
Retail

NEW!

Big Advertising Program!

Starts off with 4-COLOR AD IN OCTOBER 4th POST telling millions of car owners to buy genuine RUBBERMAID Kar-Rugs from YOU.

To Cash-in — tie-in with Kar-Rugs

Let car owners know you're Kar-Rug headquarters. Display Kar-Rugs — suggest Kar-Rugs — sales results prove that Kar-Rugs can make *extra* profit for you.

ONLY Genuine Rubbermaid Kar-Rugs have this exclusive cross-rib diamond design. Give your customers the best in rich colors, engineered sizes and long wear-resistant qualities. Sell them genuine KAR-RUGS.

THE WOOSTER RUBBER CO. • WOOSTER, OHIO

DODGE TRIPLE PROFIT OPPORTUNITY



THREE LINES

- ① **DODGE** . . . America's Most Dependable Motor Car.
- ② **PLYMOUTH** . . . 3rd Largest Selling Car in America.
- ③ **DODGE "Job-Rated" TRUCKS**
Meet 98% of All Hauling Needs.



THREE PROFITS

All available in one sales agreement. The only agreement of its kind in the industry.



ONE OVERHEAD

Three profit-makers under one roof reduce operating cost . . . boost net gains.

PROFIT-TESTED FOR OVER 37 YEARS

WRITE FOR COMPLETE FACTS

DODGE DIVISION • CHRYSLER CORPORATION • DETROIT 31, MICHIGAN

Abrasives Continued from Page 71

Production paper is used on reciprocating sanding machines and for hand sanding, for moderate work such as final preparation of metal, taking down old paint (to obtain a smooth finish for refinishing) and for other work of this nature.

Waterproof paper is used for the fine finishing work. It is usually used with water, except when the presence of water will hamper the application of the next coat. The advantage of using it wet are minimum "loading" of the paper and smoother finish.

Coming to the various grades of abrasives, discs run in grades from 16 to 50 for refinish work, 16 being the coarsest and progressing through 24, 36, and 50, the latter being the finest. A 16 disc, while it is fast, is very severe and requires further sanding with a finer disc before the undercoats can be applied. The most widely used grades of discs are 24 and 36, offering a happy medium in cutting quality as well as in scratching characteristics.

Discs are also available in "open and closed" types. An open disc is more suitable for paint, solder and other soft materials which tend to load up the grit. A closed abrasive on solder, for instance, would cause the metal to "ball up" under the disc and soon the disc would be of no use. However, for grinding regular metal, the closed disc is best, gives smoother surface with the same cutting qualities.

Discs are available in several weights of backing. For heavy work, such as grinding down edges of metal, welds, and so forth, a heavy backing is used. For doing contour work and jobs which require light pressure, the more flexible back is most suitable.

The grades of production paper run from 60 to 150. 60 is the coarsest, 150 the finest. The most popular grades are 60, 80, 100 and 150. Using a 60 production paper will take down paint in a hurry but will leave deep scratches that will have to be sanded down. Once again the grade of abrasives de-

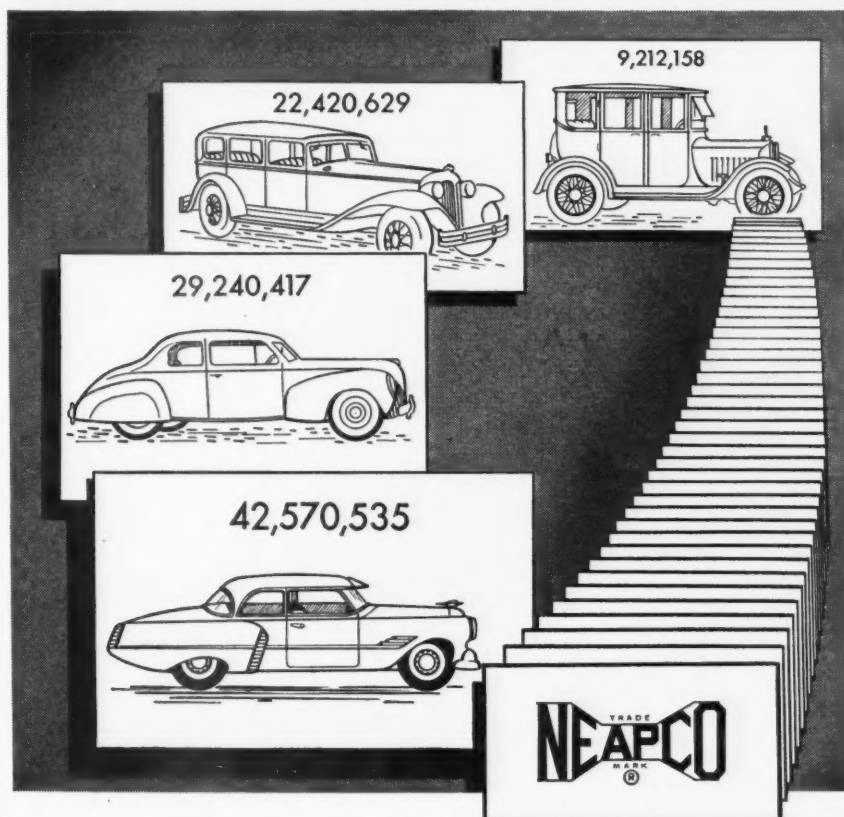
pends upon the job. Wet or dry paper has grades running from 150 to 600. 150, as wet or dry paper goes, is comparatively coarse. It is used for sanding down paint prior to refinishing where the paint has a fairly good texture. 320, 360, and 400 grades are the most popular and are used for sanding undercoats and wet sand-

ing finished paint. For a good finish, lacquer should be wet sanded with 400 waterproof sandpaper between coats. Extremely fine sanding is done with 600 grade waterproof sandpaper.

Each type of abrasive paper is available with several weights of backing as are the discs. They are designated as Grades A, C, D, and E. Grade A is the most flexible, while Grade C has a fairly stiff

(Continued on page 104)

GROWING WITH THE INDUSTRY



Today you find the familiar Neapco trademark on three great lines . . . Universal Joints, Power Take-Off Joints, Chassis Parts.

The advantages of each line grow with the increase in vehicles: Completeness, dependability, fair service policies, competitive prices, and, an established

standard of manufacturing excellence.

You get more with Neapco . . . Simplified cataloging, standard packaging, strategic warehousing for easy handling, availability . . . plus Neapco's famous unequivocal guarantee.

You can be sure you get more when you say Neapco.

NEAPCO PRODUCTS, INC. • POTTSTOWN, PA.



**UNIVERSAL JOINTS and PARTS
CHASSIS PARTS
POWER TAKE-OFF JOINTS**

Abrasives Continued from Page 103

back. Grade E is for mechanical work.

On an average fender repair, upward of five different grades of abrasive material may be used. After removing dents and making necessary welds, rust and paint are removed with a coarse disc such as 16 with a B back. To remove rust and paint from the bare

metal a 16 grit disc with a B back is used. To smooth the surface, after having taken the paint and rust down to the bare metal with 16 disc, a 24-A disc will cut down welds, smooth the metal surface and restore contours. Then deep scratches which still remain can be removed with a grit 50-A disc or with a 100 production paper.

Feathering is done with a feathering disc—usually grit 100-C. As mentioned above, 320-A water-proof paper has proved the most satisfactory to smooth the surface between coats or in the case of enamel to remove the "skin" when applying a second coat after the first coat has completely hardened. Final coats of lacquer are sanded with 400-A wet sandpaper or even finer, depending on the quality of the job.

Besides choosing the correct abrasive for every job, according to the information given above, it's advantageous to develop the right habits in using them. A leading manufacturer of abrasives makes the following suggestions:

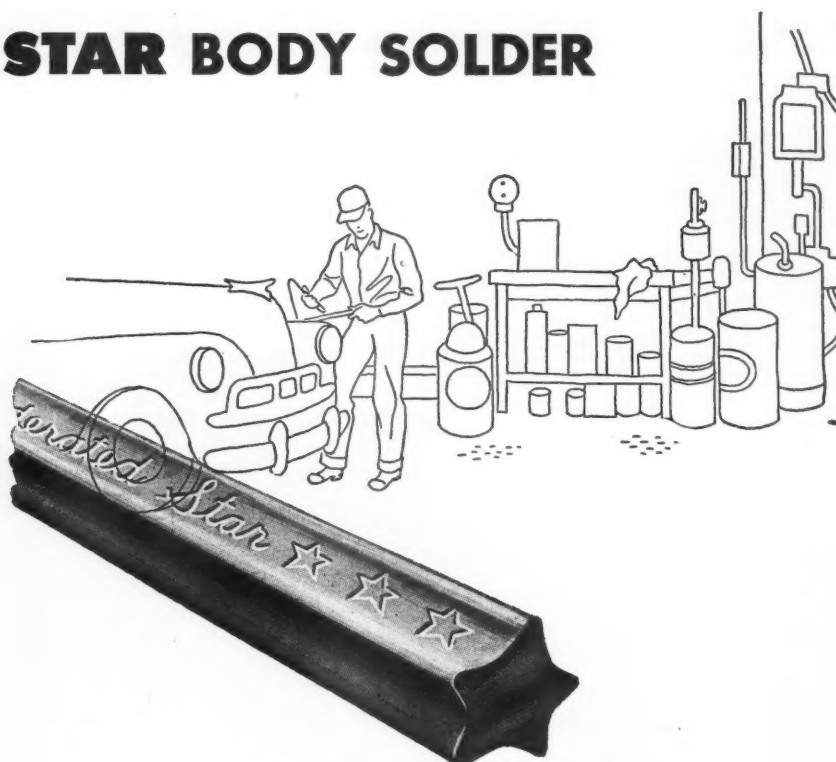
1. Hold the disc grinding machine at a 20 degree angle to the work, allowing only about one inch of the surface around the edge of the disc to do the grinding. The disc should be well supported with a back-up pad.

2. Use only the weight of the machine for pressure on portable grinders. Apply slight pressure with the flexible shaft type.

3. Move the machine so that it is perpendicular to the scratch lines at all times. Sparks should leave the disc at the same point and travel in the same direction at all times. The parallel scratches resulting from this method require less conditioning to prepare the metal for priming.

Illustrations courtesy of Minnesota Mining and Manufacturing Co. and the Carborundum Company.

STAR BODY SOLDER



Melts Quickly . . . Handles Easily

Federated STAR* Body Solder is the easiest bar solder you can use in the body and fender shop. The STAR shape exposes the solder in thin points to the torch so that you get quicker and more even melting than with old-fashioned bars. Also, the ribbed effect of the STAR shape makes the bar easier to handle!

STAR is outstanding because the alloy stays plastic long enough to paddle to a smooth, porosity-free, mirror-like surface, yet does not run and drop on the floor, causing wastage.

Your local jobber has STAR Body Solder.

*Tradename of American Smelting and Refining Company

Federated Metals Division

AMERICAN SMELTING AND REFINING COMPANY • 120 BROADWAY, NEW YORK 5, N. Y.





WINS YOU NEW CUSTOMERS

and holds the old ones!

WINNING **NEW** CUSTOMERS... **3** TOP AD CAMPAIGNS!



Series of full page U.S.I. PERMANENT color ads in the Saturday Evening Post, full page in Life and Collier's too, for your early Fall sales!



New! Big-space SUPER PYRO newspaper campaigns in key cities and surrounding areas... localized for each state, to gain extra local interest!



On highways all over the U.S.A., new 24-sheet posters will talk directly to the man at the wheel —pre-selling him on U.S.I. PERMANENT and SUPER PYRO!



U.S.I. PERMANENT

—the **WEATHERPROOF** anti-freeze! One shot gives uninterrupted protection from Fall till Spring, no matter how high or low the temperature goes! Stops rust and corrosion, won't clog. Start selling it in early Fall!

HOLDING ALL CUSTOMERS...
2 TOP ANTI-FREEZES!



SUPER PYRO

—the **ECONOMY** anti-freeze! Super protective: gives more protection per quart! ...lasts longer...stops rust, protects all 7 metals in cooling system...free from unpleasant odor. For years one of the fastest and biggest sellers!

**YOU CAN RELY
ON U.S.I.!**

- for top profits! — none higher in the industry! You can't lose with U.S.I.
- for top quality! — backed by U.S.I.'s 37 years of anti-freeze know-how!
- for top acceptance! — through word-of-mouth and strong national advertising!

Get your order in now! Your anti-freeze season will soon be here!

U. S. INDUSTRIAL CHEMICALS CO.
Division of National Distillers Products Corporation

Upholstery Continued from Page 72

in such a way that the edge of the headlining cloth will be below the weather cord but that the gripping edge will not show.

The main idea is to obtain a new gripping area above the point where the tear was located. Tearing along a listing is usually satisfactory for this job. However, it is advisable to tear this listing

by hand rather than to cut it, because there is always the chance of puncturing the headlining. In order to prevent unraveling while stretching the headlining onto the hook, apply masking tape along the border. Also, to prevent unraveling in case an additional strip is being sewn along the edge of the headlining, cement the two

pieces of material before sewing them. Additional reinforcement may be obtained by applying masking tape over the seam. Be sure to pull on the headlining evenly so that no ripples occur. If excessive tearing of the listing was necessary, it may be necessary to remove the listing a certain amount at several points in order to even out the contour of the headlining around the curve.

The retainer may be returned to its normal position after the headlining has been hooked onto the retainer by tapping the bottom edge with a rubber mallet.

Information and illustrations for this article courtesy of the Plymouth Division, Chrysler Corporation.

NPA to Reconsider Car, Truck Quotas

Although Ford lost its appeal to NPA for a greater share of the industry's production quota, NPA is taking another look at individual company allocations and is expected to make some adjustments for the fourth quarter. It will hold out about 5 per cent of total production, to be distributed after new determinations are made. The agency will look at the competitive position of each company during the year ended last June 30, and has invited automobile and truck manufacturers to present supporting data for any appeals for higher quotas. It also will ask those companies which did not make their full allocations during the first and second quarters to explain why they fell short.

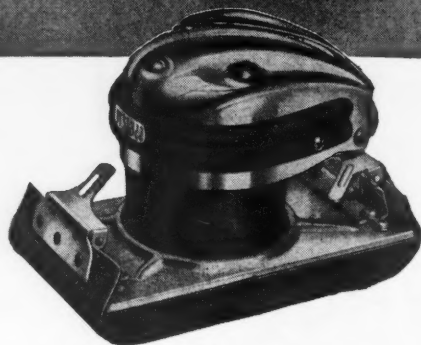
Studebaker First Half Net Exceeds Year Ago

Studebaker reports an increase in net earnings for the first six months of this year compared with the same period a year ago. Profit for the first half of this year was \$8,787,223 on net sales of \$285,380,981. For the same period of 1951 earnings were \$7,610,885 on sales of more than \$264 million. An interesting point is that the higher profit was obtained despite a drop in the number of cars and trucks sold. A year ago the company sold a total of 159,795 units in the first six months, compared with 128,507 vehicles during the corresponding period of 1952.



NATIONAL Model 400

"Mity-Midget"



Feather-edging . . . ordinarily it's a slow, tiresome, touchy job . . . but with National's Mity-Midget it is fast and easy. This convenient, air driven block sander weighs only 4 pounds. It fits the hand comfortably, and because it is vibrationless, can be used for hours without tiring the operator. Making 4000 to 6000 orbital strokes per minute, it cuts sanding time to a minimum, and allows you to finish more jobs per day. Write for details.



Or See Your Jobber

NATIONAL AIR SANDER, INC.
2820 AUBURN ST., ROCKFORD, ILLINOIS

THIS HANDSOME
**BRASS FITTING
CABINET**

FREE!

YOU PAY ONLY
FOR THE FITTINGS!



Edelmann No. 219

"COUNTER KING"

Brass Fitting Stock in
STURDY STEEL CABINET



Molded one-piece "Visible Stock" trays of clear, tough plastic, with enclosed label and removable, individually labeled dividers.

Here's the new, "streamlined", easy way to stock and sell brass fittings! No. 219 "Counter King" Stock contains 470 popular, fast-selling fittings in this handsome, handy counter cabinet with 15 sliding plastic trays that keep parts clean and sorted.

YOU PAY ONLY FOR THE FITTINGS — cabinet and trays are FREE! Measures 11 1/4" wide, 11 1/4" deep, 11 1/4" high. "Ball-and-socket" construction permits safe stacking of several cabinets.

HELPS DEALERS
THESE **4** WAYS!

- SIMPLIFIES ordering, stocking, inventory
- PREVENTS losses and mixups
- SAVES time and space
- KEEPS stock "factory-fresh"



UNIQUE
"SELF-STACKING"
CONSTRUCTION

DON'T WAIT! ORDER THIS extra-value "Counter King" Stock from your Jobber TODAY, or write direct!

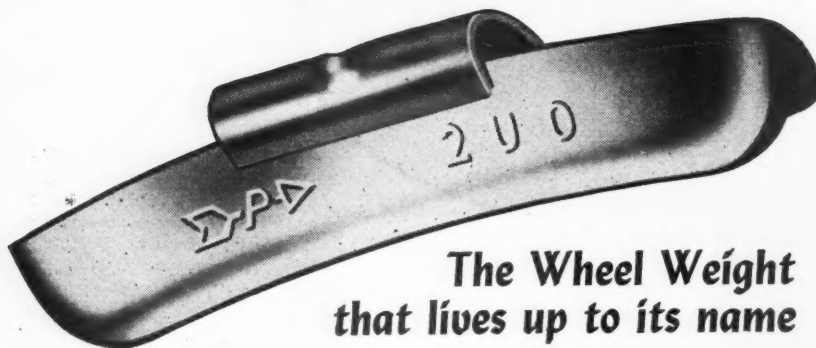
E. EDELMANN & CO.

2332-56 LOGAN BOULEVARD • CHICAGO 47, ILLINOIS



...Where
BALANCE
is needed!

PERFECT
 WHEEL WEIGHTS



The Wheel Weight
 that lives up to its name

● "U" TYPE

A favorite in the industry. Fits ALL rims having factory trim rings except late model Cadillacs.

● "C" TYPE

The "C" type weight (new style) in six sizes will give most satisfactory results on passenger cars with "K" or "L" type rims.

● "SPECIAL" TYPE

Made for late model Cadillacs with hub caps covering entire wheel, except 1951 model for which "C" type weight is recommended. 6 sizes.



PERFECT EQUIPMENT CORP.

804 W. Morgan St.

KOKOMO IND.

P.O. Box 706



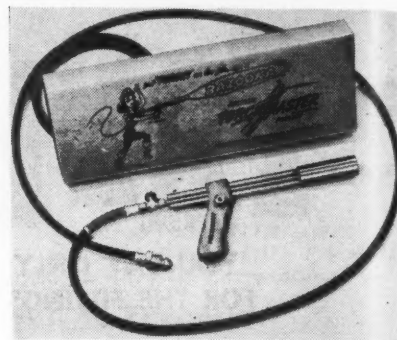
Manufacturers of Wheel Weights for Trucks and Passenger Cars

New Products

Continued from Page 58

362. Heavy Duty Torch

Industrial Engineering Products Co.: A light weight extra duty burner known as the "Bazooka" has a self-cooled adjustable pistol grip handle which can



be moved closer to the burner for better control or back away from the reflected heat of the work. The torch weighs 2½ pounds complete with hose assembly and produces a flame range from a soft, lapping flame of 5 inches and 1 inch in diameter to a large hard blast flame of 20 inches long and 5 inches in diameter. It is operated from standard liquid petroleum gas cylinders at tank pressure with no gas regulator required.

363. Winding Tester

Columbia Technical Corporation: A newly developed, portable electronic winding tester is said to be so sensitive that it can de-



tect a single shorted turn of No. 40 AWG wire. It is designed to detect faults in and to prevent breakdowns of electrical motors and generators. Known as the PMD Tester, it enables the user to detect the location as well as the nature of the electrical fault in
 (Continued on page 110)



**"Whenever you take out an oil seal,
always replace it with a new one..."**

With National service stocks, you have the right seals when, where you need them. Cabinet comes with the deal, jobber keeps stock up. Stocks "tailored" for different needs. Ask your jobber, today!

Service stocks to fit your needs



#5512. For lube stations. 58 angular front wheel seals.



#5511. For garages. 114 fast-moving front, rear seals.



Support this industry wide program...



...and be sure the new seal is a National!
Installing new seals saves time and work, makes extra profit and insures a good, dependable job. No time lost wiping and cleaning the old seal, no worry about seal failure. (Even expert examination doesn't always show when an old seal is no longer trustworthy.) So play it safe—whether you're working on Doc Jones' new sedan, a panel delivery, a pre-war convertible or a big fleet rig. Replace with new National Oil Seals—every time!

NATIONAL MOTOR BEARING CO., INC.

General Offices: Redwood City, Calif. Plants: Redwood City, Calif.; Van Wert, Ohio

2391



Approved original equipment for all cars, trucks, busses and tractors.

New Products Continued from Page 108

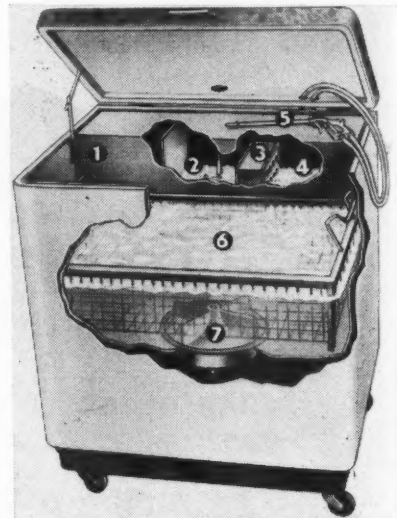
any type of winding. The manufacturer points out that this tester is not to be confused with the usual type of testing device such as the "growler." It can be used on both AC and DC devices.

364. Parts Cleaner

Storm-Vulcan, Inc.: A new model Turbo-Blast parts washing

machine for use in cleaning smaller parts has been developed. It is known as the Turbo-Blast, Jr., and has an impeller which causes agitation of the solution. The agitator is powered with a 1/2 hp motor and the machine filters the solution. It is equipped with a power-rinse device. An automatic safety feature closes

the lid instantly should a fire break out when a volatile cleaning solution is being used. It measures 35 1/2 in. high, 29 1/2 in. wide and has a tank depth of 17 in.



The numbers in the illustration are as follows: 1. Safety fuseable link; 2. Clean solution tank; 3. Filter; 4. Solution settling tank; 5. Power-rinse gun; 6. Cleaning compartment and basket; 7. Impeller.

365. Wheel Balancer

Hunter Engineering Co.: A new addition to the Hunter balancer-equipment line is the Hunter Tune-In Wheel Balancer with heavy duty truck spinner. The unit is said to balance one-half to one and one-half truck wheels. The spinner is a dual motor, heavy duty unit, with two 1 1/2 hp. 6000 rpm motors which are connected
(Continued on page 114)

New, Miracle Safety Accessory *SWEEPS* *THE COUNTRY!*



Troy Ruttman

**1952 INDIANAPOLIS
WINNER SAYS**

"The Gyro-Skid on my car not only controls skidding but stabilizes for better riding."

Gyro-Skid Control

Quickly clamps to
auto's frame. Squelches skids
on wet roads or dry.



Dealers Everywhere are
cashing in on "Biggest Safety
Item Since Hydraulic Brakes."

NOTE THE EASE OF INSTALLATION

Simply center and
clamp to rear cross
member with clamps
provided. No servic-
ing. 5 to 8 minutes in-
stallation time.



"A sweet \$16 profit on an easy sale"—is the word that's making the rounds! History-making press notices are now being followed up by advertising through 1952-53 in major national magazines, television and newspapers. Just off the press—complete Dealer Advertising Kit—yours free! Remember—there's only one GYRO-SKID Control—Ask your jobber.

\$39.95

DEALER DISCOUNT
1-4 less 30 %
5 or more less 40 %

Gyro-Skid Control

Developed by Dr. William Ross
Gyro-Skid Control Co., Inc., 4224 W. Olympic Blvd., Beverly Hills, Calif.

AMATEUR HOUR



"I learned to play it during that
last cold spell!"

Soundmaster FITS

...NOT 1,
NOT 2, BUT
ALL 3 WAYS!



1 ACOUSTICAL FIT

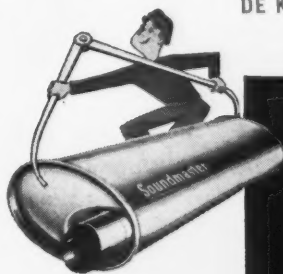
Every time you hear the sour sound of a worn-out muffler, fix it quick... install a Soundmaster! Soundmaster Mufflers are designed to control the noise on *specific* makes and models. With

unsurpassed scientific equipment, Soundmaster engineers each muffler for control of not only total exhaust noise, but also the individual, irritating sounds which occur at different speeds and loads. On any car, for *full range* noise control, get a Soundmaster from your NAPA Jobber!

DE KOVEN MANUFACTURING COMPANY • RACINE, WIS.

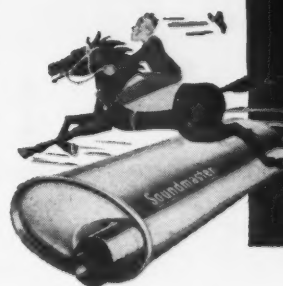
2 MECHANICAL FIT

Complete and uncompromising for each make and model. Your assurance of Fast Installation Time and a better profit on each muffler job!



3 HORSEPOWER FIT

Each Soundmaster is designed to keep back pressure down, horsepower up. Protects against loss of pep—gives all the power the car can deliver!



Soundmaster

MUFFLERS FIT
ALL 3 WAYS!

New Products Continued from Page 108

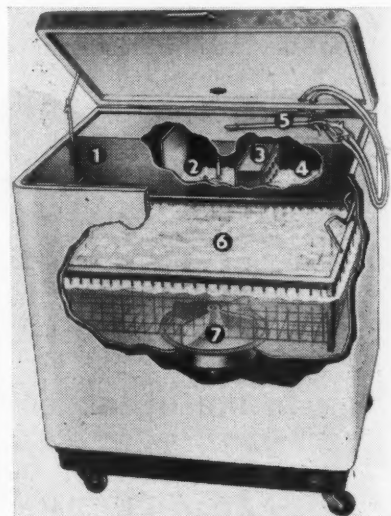
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***SWEEPS
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Quickly clamps to
auto's frame. Squelches skids
on wet roads or dry.



Dealers Everywhere are
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Item Since Hydraulic Brakes."

NOTE THE EASE OF INSTALLATION

Simply center and
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5 to 8 minutes in-
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Gyro-Skid Control

Developed by Dr. William Ross
Gyro-Skid Control Co., Inc., 1234 W. Olympic Blvd., Beverly Hills, Calif.

\$39.95
LIST

DEALER DISCOUNT
1-4 Less 30 %
5 or more Less 40 %

AMATEUR HOUR



"I learned to play it during that
last cold spell!"

Soundmaster FITS

...NOT 1,
NOT 2, BUT
ALL 3 WAYS!



1 ACOUSTICAL FIT

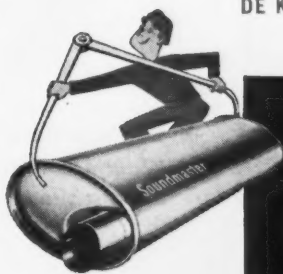
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DE KOVEN MANUFACTURING COMPANY • RACINE, WIS.

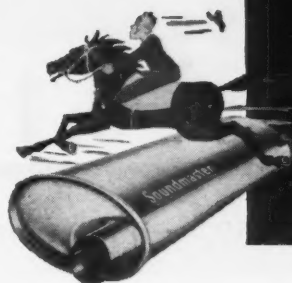
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3 HORSEPOWER FIT

Each Soundmaster is designed to keep back pressure down, horsepower up. Protects against loss of pep—gives all the power the car can deliver!



Soundmaster

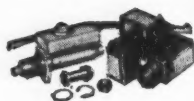
MUFFLERS FIT
ALL 3 WAYS!

Better because



Surpasses
S.A.E.
Specifications

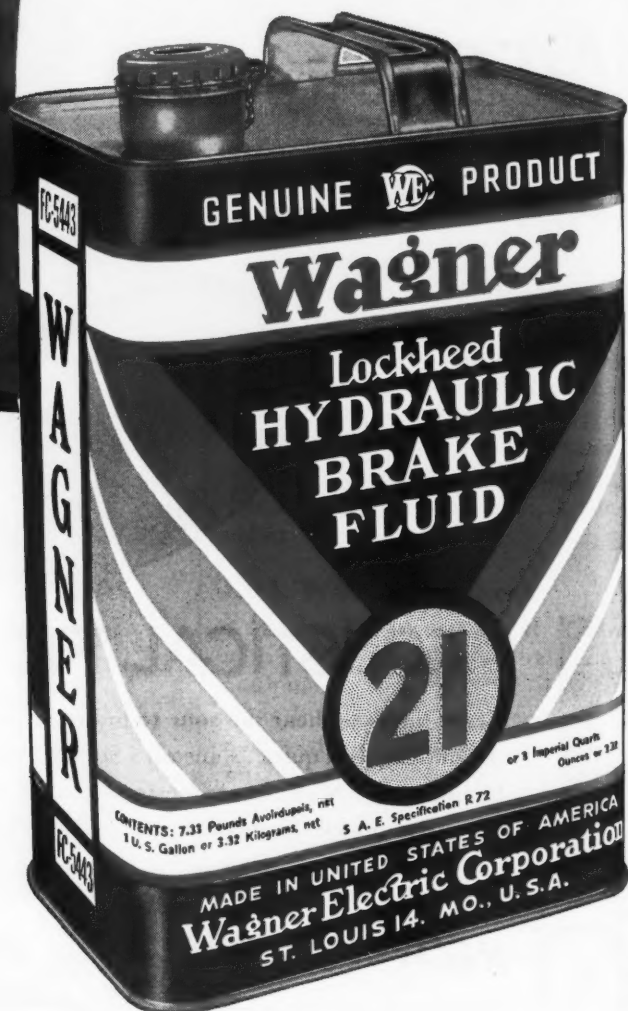
...and all from **ONE** source
...your Wagner jobber!



WAGNER LOCKHEED HYDRAULIC BRAKE PARTS—a complete line, covering all makes of cars and trucks including seldom used, slow-moving parts not easily obtainable elsewhere.



WAGNER CoMAX BRAKE LINING—offers complete coverage for all your needs... in sets, rolls, blocks, slabs and cut segments. A non-compressible, long wearing lining of uniform texture.



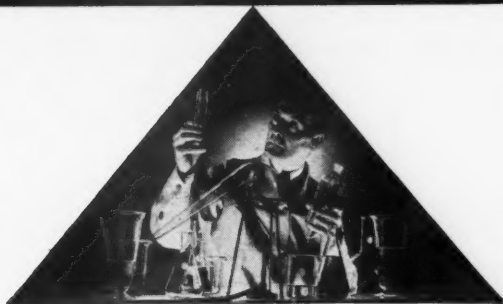
★ You can depend upon **WAGNER QUALITY** because Wagner products are used as original equipment by automobile, truck and trailer manufacturers.



Wagner

LOCKHEED HYDRAULIC BRAKE PARTS and FLUID • NoRel • CoMax BRAKE LINING • AIR BRAKES

it's BALANCED!



Only Wagner Lockheed Hydraulic Brake Fluid has all these advantages...

- Chemically balanced—with just the right amount of costly vegetable-type lubricant to assure proper lubrication to all parts of the brake system.
- Chemically balanced—with exactly enough moisture absorber so that no separation occurs.
- Chemically balanced—with the correct proportion of all ingredients required to assure an all-season fluid that functions perfectly under all normal operating conditions.
- Chemically balanced—to maintain chemical characteristics even after long use.
- Chemically balanced—so that it maintains high operating temperature characteristics, yet functions in sub-zero temperatures.
- Does not harm rubber cups or hose.
- Forms no gummy residue.
- Does not evaporate excessively.
- Used by vehicle manufacturers.
- Nationally advertised in POST and COLLIER'S.
- Has consumer acceptance. First in brake fluid sales.
- Packaged in 12 oz., quart, gallon, 5, 30, and 54 gallon containers.
- Warehoused internationally through 25 Wagner Branches.
- Available everywhere through leading automotive jobbers.
- A product of Wagner Electric Corporation.



Wagner Electric Corporation

6498 PLYMOUTH AVE., ST. LOUIS 14, MO., U. S. A.
(Branches in principal cities in U. S. and in Canada)

...the best known
name in brake service

Please send me the latest Bulletins on Hydraulic Brake Servicing—HU-17H, HU-197.

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H52-12

TACHOGRAPH • ELECTRIC MOTORS • TRANSFORMERS

INDUSTRIAL CRANE BRIDGE BRAKES

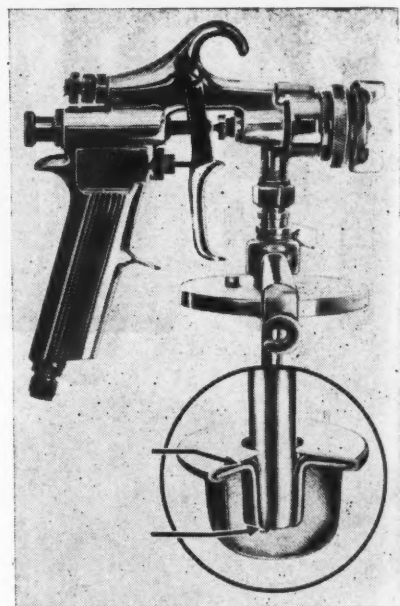
New Products Continued from Page 110

by means of a high speed coupling. The motors are operated by hand levers on both sides of the spinner or by a rear foot pedal which actuates automatic motor switches.

366. Paint Strainer

Gardner Laboratory, Inc.: The Rein Midget strainer fits on the suction tube of all commercial

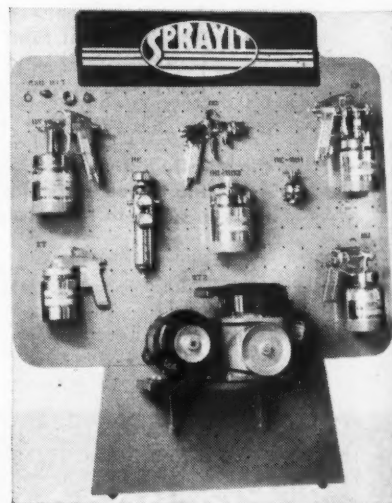
spray guns having a 7/16 inch diameter tube. No pre-straining is said to be necessary since the midget strains the material as it leaves the spray gun. It prevents the gun from clogging, the manufacturer states, and eliminates dirt specks from the finished job. It takes no additional effort to keep the Midget clean, as the same



operation and thinner that cleans the spray gun will also clean the strainer. The strainer fits over the end of the suction tube in the spray gun cup.

367. Merchandise Station

Electric Sprayit Co.: To enable dealers to establish themselves in the paint spraying equipment business, at a minimum outlay, and to increase the number of outlets for their products, this firm now offers a merchandise station, which comes complete with nine attachments. The merchandiser is free, as the dealer pays only for the merchandise on



the board. It is a permanent display, measuring 48 inches by 40 inches and mounted on permanent casters. It is made of 1/2 inch Duro board and has a hinged leg supported by a chain.

(Continued on page 116)

Write for
your copy

JOHNSON BRONZE BEARING HANDBOOK

Just off
the press



THIS new Johnson Automotive Bearing Handbook contains valuable information on bearings, their care and their replacement. It will assist you by explaining the correct method of removing, installing and maintaining automotive bearings. It is packed full of practical, easy-to-read information and is profusely illustrated. The information has been compiled through the cooperation of the Johnson Bronze Engineering Department, its Research and Development Laboratory and Johnson Field Service Engineers. It has been prepared for the use of practical men who service automotive engines, and for students in automotive trade schools.

This Handbook will be sent **FREE** if requested on your business letterhead; also to students and instructors who write on trade school stationery.

JOHNSON BRONZE CO., 455 S. Mill St., New Castle, Pa.



JOHNSON BEARINGS
Sleeve Type

NEW WOLF'S HEAD MOTOR OIL



*the one motor oil
that has all three!*

The new WOLF'S HEAD Motor Oil offers the extra protection that modern cars require. WOLF'S HEAD is the 100% PURE PENNSYLVANIA Oil that is SPECIALLY REFINED . . . and SCIENTIFICALLY FORTIFIED. It "cleans as it lubricates", provides extra protection against corrosive acids, rusting and oxidation . . . and eliminates all unnecessary wear!

Sell WOLF'S HEAD and you'll never be out-sold on quality!

When heavy duty oil is required, recommend and sell WOLF'S HEAD Heavy Duty. It exceeds car manufacturers' specifications.



FREE!

GUIDE TO THE WEATHER Folder shows how to forecast weather by cloud formations. Write for a copy.

Wolf's Head Oil Refining Co., Inc., Oil City, Pa., New York 10, N. Y.

WOLF'S HEAD

MOTOR OIL AND LUBES

100% Pure Pennsylvania
Scientifically Fortified



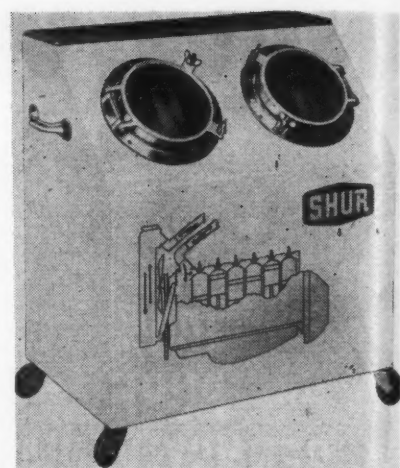
Member, Penna. Grade
Crude Oil Association

New Products Continued from Page 114

368. Reverse Flusher

Grieve-Hendry Company, Inc.: Announcement has been made by this company of a new cooling system reverse flusher called the NX-100 which is said to clean radiators and motor blocks equally well. The unit is designed to clean the cooling system by reverse flushing of the radiator and mo-

tor block—on or off the car—without the use of acid, in less than 30 minutes. Two windows in the front of the unit show the rust and foreign particles being flushed and filtered. The method employed is preheated chemical solution with regulated safe pressure and a reverse filtering action. The NX-100 is housed in a unit



of heavy gage steel finished in white baked enamel. It measures 36 inches high x 30 inches wide x 19 inches deep.

369. Repair Kits

J. H. Williams & Co.: Two new ratchet repair kits for B-51 (3/8 in. sq. drive) and S-51 (1/2 in. sq. drive) "Superatchets" have been added to the Williams line. In addition to a complete assortment of replacement parts, each repair



kit contains one special spanner wrench. This wrench fits the retaining ring (gland), the only part requiring a tool for assembly or disassembly. Printed instructions are included in each kit.

370. Drum Lathe

Bee Line Company: A new drum lathe designed for precision turning on all cars and light trucks is now on the market. It comes complete with motor, automatic controls, tools and arbors. It uses a 1/3 hp motor which operates on 110 volts AC 60 cycle. It has a direct worm gear drive. The arbor assortment handles up to 14-inch diameter drums and the lathe is furnished complete with instructions.



He's mad! He paid for more than "parts and labor"

He's mad because he's hurt...in the pocketbook. He has just paid a repair bill without getting what he paid for...*improved performance and increased horsepower*. Instead of becoming a costly "come-back" he could have been a satisfied customer.

The Clayton Chassis Dynamometer is showing hundreds of dealers and service shops the way to new, easy and increased service profits by *insuring* customer satisfaction. The dynamometer not only finds trouble more quickly, more accurately, to eliminate guesswork... but it allows final adjustments and inspection to be made with the car operating "*on the road*." With the Clayton Dynamometer in use there can be no service come-backs; no dissatisfied customers.

Sell horsepower...improved horsepower, weighed and guaranteed...and parts and labor sales will take care of themselves. Mail the coupon and get the full story as it applies to your service operation.



MAIL THIS COUPON FOR THE FULL STORY

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FIRM _____

ADDRESS _____ CITY _____ STATE _____

CLAYTON MFG. CO.
BOX 550, EL MONTE, CALIF.
Send us the complete story on modern automotive service for profit

MA-8

REVITALIZE YOUR SWITCH SALES *with* COLE-HERSEE SWITCH PAKS

"Cole Paks mean greater sales, quicker turnover and increased profits".

"Cole Paks are neat and compact — stack easily, with no little packages that get lost".

"Cole Paks create impulse purchasing at point of sale".

"Cole Paks keep their own inventory".

"15 Cole Paks — most everything we need for universal replacement use and more coming".



SEND FOR COMPLETE PAK CATALOG

COLE-HERSEE CO. 20 OLD COLONY AVE.
BOSTON 27, MASS., U. S. A.

Clutch Work Continued from Page 41

or broken; clutch plate or pressure plate badly worn, warped or damaged; driving pins or bolts in pressure plate holes might also be binding and must also be adjusted; clutch pedal binding or hitting the floor board; clutch facings which are oily or greasy or misalignment between the transmission and the flywheel housing.

Chattering

Oil or grease or dust on the clutch; clutch pedal not adjusted properly; play in transmission, universal or rear axle. Release levers binding. Pressure plate binding. Clutch plate badly worn in transmission universal or rear axle; loose or worn out motor mountings; release levers bind-

ing; pressure plate binding against studs or pins and levers; pressure plate badly warped or cracked or driving lug broken; clutch plate badly worn; clutch shaft or clutch plate bent.

Squeaking

Throw-out bearing worn or not lubricated properly; lack of clearance between release levers and throughout bearing; release sleeve dry; pilot bushing, transmission, main shaft gear bearing or ball may lack oil; or misalignment between engine clutch and transmission, check with dial gage to correct.

Rattles

Worn dowel pins in flywheel; clutch sleeve or clutch shaft may be out of line; clutch release sleeve or throw-out bearing badly worn; pilot bearing or bushing in need of lubrication or badly worn; loose hub in clutch plate; splines on clutch plate are worn badly; driving pins or lug in pressure plate worn; looseness and backlash in hub of clutch plate; splines on clutch plate or hub worn badly; driving pins or bolts in pressure plate worn; looseness or backlash in propeller shaft joints or in the transmission.

Vibration

Using the wrong type clutch, i.e. a rigid one where a flexible type was the design intended; flywheel or clutch assembly out-of-balance; bent clutch shaft; loose universal joints or worn; sprung propeller shaft; frozen clutch plate on clutch shaft not allowing to slide back and forth properly; misalignment between the engine, clutch and transmission.

Failure of Clutch To Transmit Power

Broken clutch springs allowing the hub to turn; clutch plate facing badly worn; hub of clutch torn out; spring or flexible center torn out broken. Loose motor mountings.

Faulty Adjustment

When renewing a clutch on any car, the following points should be checked: Examine the condition of
(Continued on page 122)

**FOR A SWEET RUNNING MOTOR
POINTS MUST BE**

Right !

*This construction for all three
Ignition Systems:*

**ALL THESE
ECHLIN EXTRAS
AT NO EXTRA COST TO YOU**

ECHLIN *Ignition*

A PRODUCT OF **ECHLIN**

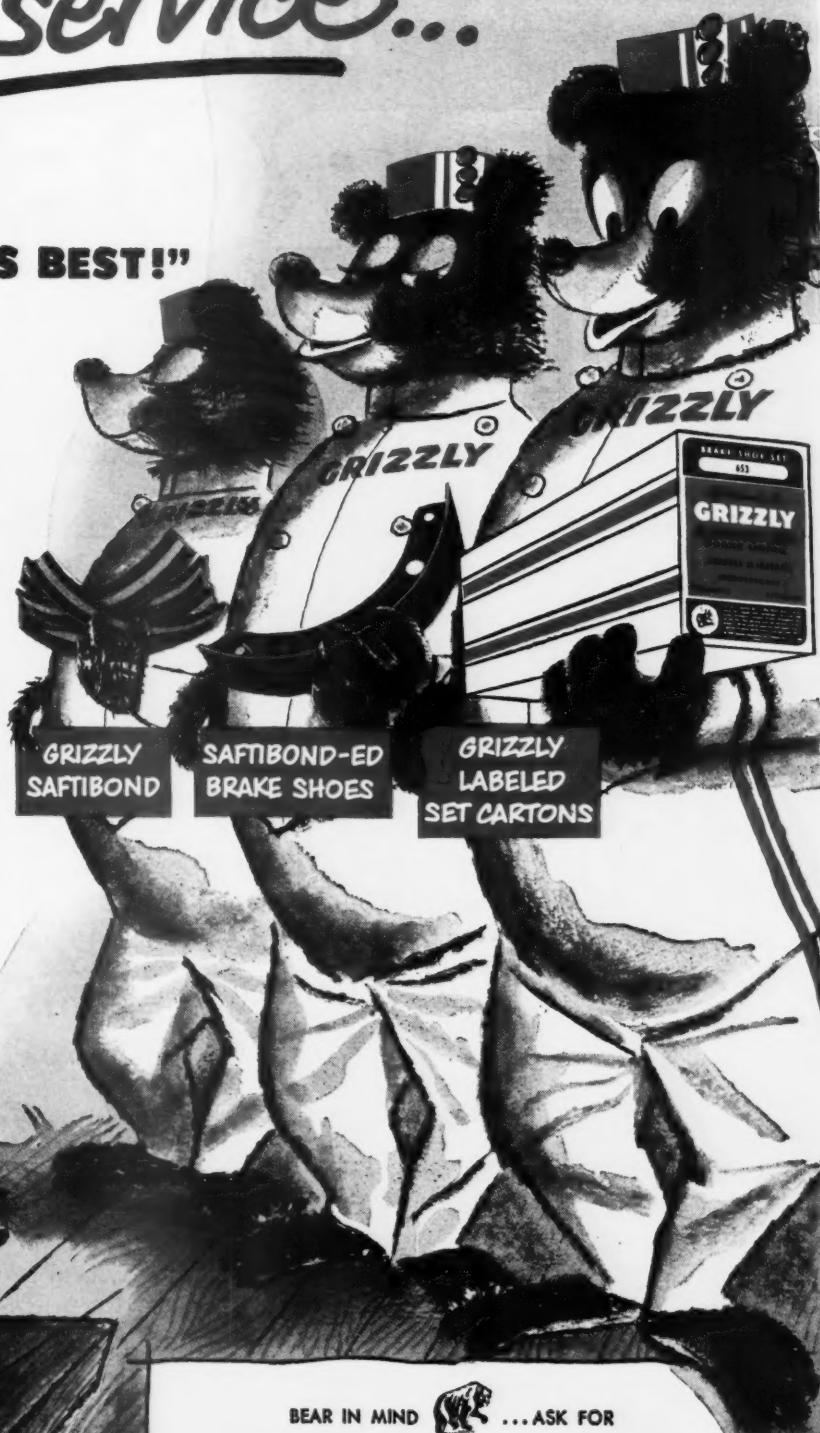
**CONTACTS
COILS • CONDENSERS
& OTHER AUTOMOTIVE
ELECTRICAL PARTS**

ECHLIN MANUFACTURING COMPANY, Dept. MA, 220 EAST ST., NEW HAVEN 5, CONN.

at your service...

FOR "BONDING AT ITS BEST!"

For fast, complete, experienced service on bonding, no one can equal your Grizzly Distributor! He has exactly the right equipment and lining to make bonding pay off handsomely for you: His "Saftibond" lining, the *first* with factory-applied bonding agent, provides cleaner, better results at less cost. From his well-stocked shoe exchange you can quickly get "Saftibond-ed" shoes (and also *riveted* shoes) all ready for installation. And each set of Grizzly lining or shoes is delivered to you in special, clearly labeled cartons. He will even offer you expert instruction on the installation of bonded brakes! Start getting those bigger bonding profits—get in touch with your Grizzly Distributor today! *Grizzly Manufacturing Company, Paulding, Ohio.*



BEAR IN MIND  ...ASK FOR

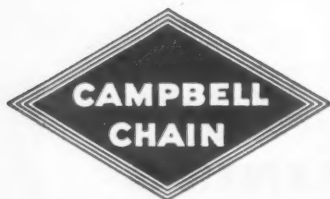
GRIZZLY

Reg. U.S. Pat. Off.

BRAKE LINING

GRIZZLY SYNCRO-SET,[®] SILVERTIP AND SAFTIBOND[®]
BRAKE LININGS • PRECISION BUILT HEAVY DUTY
BRAKE BLOCKS • GRIZZLY HYDRAULIC BRAKE FLUID

? how much ?
PROFIT ?
 ? will you miss next winter ?
 ? ?

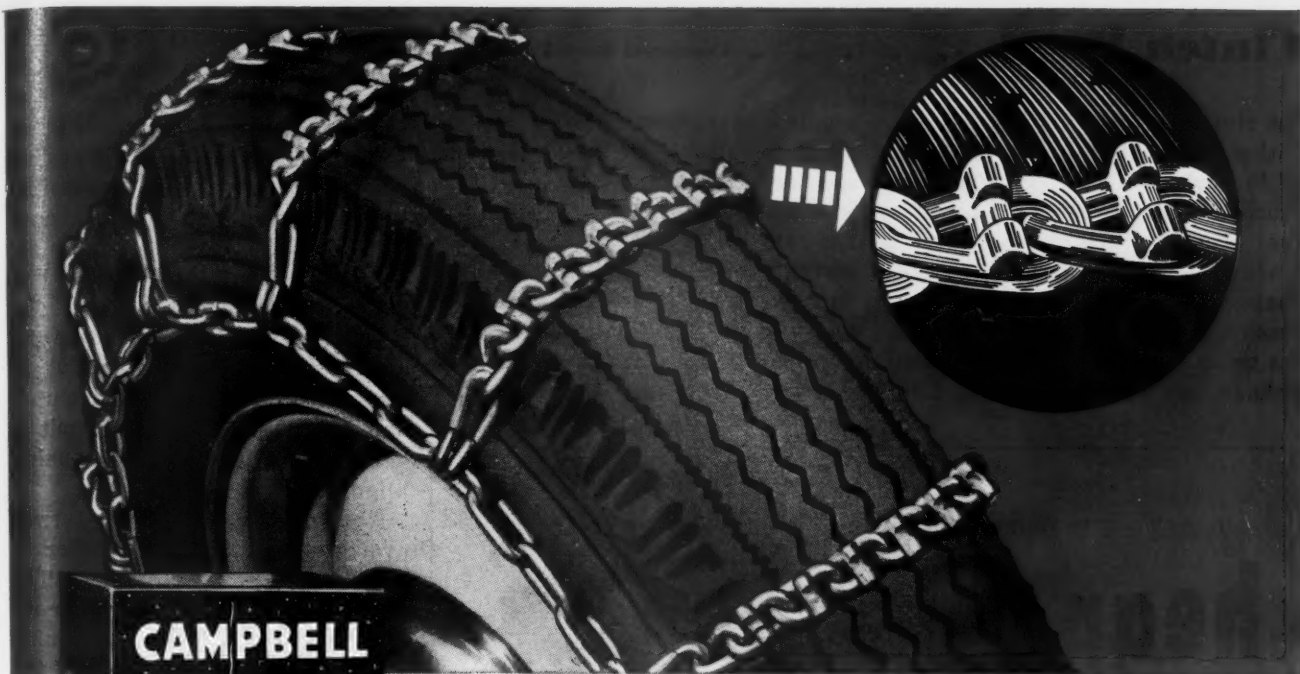


Traffic snarls lasting for hours followed "sneak" snow storms in many cities last winter. Most tie-ups were caused by motorists who *didn't* have chains and couldn't get any!

There's always a chain shortage when sudden storms occur. Don't be caught with your chain supply down! Stock up now on Campbell Lug-Reinforced Tire Chains.

CAMPBELL

*Lug-
Reinforced*



Sell chains as you sell anti-freeze, winter lubrication and heater hose. Make it a point to get a set of Campbell Chains in the trunk of every customer's car... before it snows.

CAMPBELL, a top name in chain, offers you this sure-fire program that makes chains easy to sell before the snow flies.



BETTER PRODUCT

You can show your customers the extra metal in Campbell's patented Lug-Reinforced construction. This insures better traction and guards against skids and side slips. When you sell Campbell, you sell the safest, longest-wearing chain!



BETTER PACKAGE

Campbell's modern, colorful, eye-catching package displays well, stores well—keeps chains neat in car trunks. Handy, easy-to-use Chain Applier, at no extra cost, is the sales clincher!



BETTER SALES HELP

The new 1952 Campbell Merchandising Kit contains display banner, ad-mats, streamers, post cards, island and window display suggestions. Contains plenty of ideas to help you make good money selling Campbell Chains this season and ties you in with Campbell's advertising in national magazines. Get complete details from your jobber.

ORDER YOUR STOCK OF CAMPBELL *Lug-Reinforced* TIRE CHAINS NOW!
CAMPBELL CHAIN Company • Main Office: York, Pa. • Factories: York, Pa., and West Burlington, Iowa

TIRE CHAINS

Clutch Work Continued from Page 118

the clutch pilot bearing for lubrication and wear. Examine the face of the flywheel. If it is rigged or scored have it machined. Examine the pressure plate for scores, cracks and ridges, and either exchange or rebuild it. Check the tension of all the springs. Examine the condition of the throw-out linkage and clutch bearings. Ex-

amine the splines of the clutch shaft and also the teeth of the gear end for wear.

Misalignment is the major cause for cars jumping out of gear and clutch troubles; it causes rapid wear on the splines of the clutch plate and shaft. Also it results in backlash in the clutch.

If units are out of alignment,

excessive strain is put on the driven member and may cause the hub to break loose from the plate. Misalignment can also cause chattering, grabbing or dragging clutch which makes it impossible to shift gears quietly. In cases where considerable backlash is detected by speeding up car and then suddenly cutting down on the throttle or in instances where the clutch drags when putting it in gear, both transmission and clutch should be removed to permit a check of the flywheel and housing alignment with the dial gage.

The motor should be turned over slowly by hand in order to obtain accurate readings. The gage can be mounted on flat or recessed type flywheel to determine run-out on the friction face of the flywheel, and run-out should not exceed .003 inch. This face should be properly machined.

The rear face of the engine housing should be parallel with the flywheel face and run-out should not be greater than .005 inch. Should the run-out of either the above mentioned faces be greater than .005 inch, they both should be machined. If bell housing is located on dowel pins, remove the clutch shaft and the bearing. The transmission case mounted on the engine and with the indicator on the flywheel, the whole end which the bearing is mounted should be checked and the variation should not be greater than .010 inch.

cheap brake fluids are expensive



Consider your reputation! Consider the safety of your customer! You never save money on cheap brake fluids. So, why take a chance when you can standardize with EIS. Come-backs are costly. It **COULD** make the difference in your next cylinder job!!!

EIS BRAKE FLUIDS meet or exceed SAE specifications. **EIS BRAKE FLUIDS** work perfectly under any climatic condition — and they mix with all top-quality fluids.

SUPER "40" (moderate) is recommended for all light-duty passenger cars only. (See "DON'T" Below)

SUPER "50" (heavy duty) is recommended for all passenger cars, Trucks, Buses, Tractors and Taxis.

EIS AUTOMOTIVE CORP.
Middletown, Conn.

"ECONOMIZE" WITH

NOW AVAILABLE . . .
New Merchandisers
New Valves
New Kits

Ask your Jobber
or write us direct.



DON'T
Master Cylinders on Ford Products (1952) are installed under hood — "GET QUITE HOT!" The Highest Boiling Fluid is none too good. You should use "Super 50" only; protect the job and your reputation. Factory recommends it also.



"The little one's a tune-up specialist, you'll soon find out what the other's specialty is!"

IT'S EASY

TO GET STARTED

WITH

NEW DEPARTURE and

HYATT

The most famous
**BEARING LINES IN THE
INDUSTRY...**



IT'S EASY TO GET STARTED WITH ANY OF THESE UNITED MOTORS LINES

DELCO Batteries
AC GAUGES, Speedometers and
Rebuilt Fuel Pumps
SAGINAW Jacks
MORaine Engine Bearings
DELCO Radio Parts
ROCHESTER Cigar Lighters
HYATT Roller Bearings
INLITE Brake Lining
HARRISON Heaters
GUIDE Lamps
DELCO Clocks
NEW DEPARTURE Ball Bearings
DELCO Shock Absorbers
MORaine Gasoline Filters
HARRISON Thermostats
DELCO-REMY Starting, Lighting &
Ignition
KLAXON Horns
HARRISON Radiators
ROCHESTER Carburetors
DELCO Hydraulic Brakes

It's easy to get started in the bearing business with New Departure Ball Bearings and Hyatt Roller Bearings . . . easy to build a steady volume. Practically every motorized vehicle on the road today—more than 50 million in all—has original equipment bearings supplied by New Departure or Hyatt, or both! Build real customer satisfaction by replacing when necessary with these famous bearings.

COMPLETE INFORMATION — FREE

Complete application information, service instructions, and data books are available to you without charge. Equally important, information on new applications is sent to you regularly so that you are always best prepared to supply the right bearing for every need.

BROAD MARKET The market for New Departure and Hyatt is so broad you are assured of a steady volume of business.

EASY TO GET STARTED Get in touch with your nearby New Departure and Hyatt Bearing distributor who will be glad to show you how easy it is to get started in the bearing business with New Departure and Hyatt. The investment is small.

**NEW DEPARTURE BALL BEARINGS
HYATT ROLLER BEARINGS**

A GENERAL MOTORS PRODUCT



UNITED
SERVICE
MOTORS

A UNITED MOTORS LINE

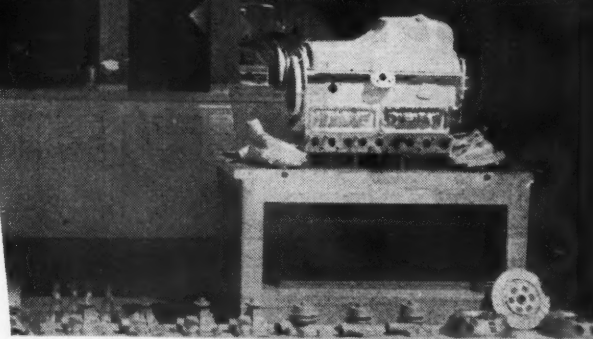
DISTRIBUTED BY WHOLESALERS EVERYWHERE



...Top Money-Makers
in Our Shop...Speed and
Versatility...the Best
Way to Get Good Fits!

John B. Drahozal, Owner
J. D. Motor Rebuilders
Cedar Rapids, Iowa

J D MOTORS
COMPLETE AUTOMOTIVE MACHINE SHOP SERVICE



Sunnen Products Company
7910 Manchester
St. Louis 17, Missouri

Gentlemen:-

In a small shop such as ours, you've got to have equipment that pays out -- and our Sunnen Wet Honing Machines have certainly done that. We use two of them and they're the top money makers in our shop. No other machines could take their place for speed and versatility.

Some of the jobs we use Sunnen Honing Machines for are piston pin fitting, connecting rod reconditioning, spindle body repairs, brake cylinder reconditioning, and reconditioning cylinders in air compressors, garden tractors, and outboard motors.

I have personally used Sunnen Honing Machines for almost twenty years, and I know it's the best way to get good fits and smooth finish in bushings and bearings.

Sincerely,
John B. Drahozal
JOHN B. DRAHOZAL
Owner

JBD:AED

SUNNEN PRODUCTS CO.
7718 Manchester Ave., St. Louis 17, Mo.
Canadian Factory: Chatham, Ontario

Cooling Systems . . . Continued from Page 49

and connections require little time and prevent failures later.

The joint between the cylinder head and engine block actually consists of a large number of individual joints at water transfer ports and at combustion chambers which are all sealed by the head gasket. All of these joints are subjected to the strain of extreme temperature changes within the engine, and combustion chamber parts are subjected to pressures as high as 600 pounds psi or more.

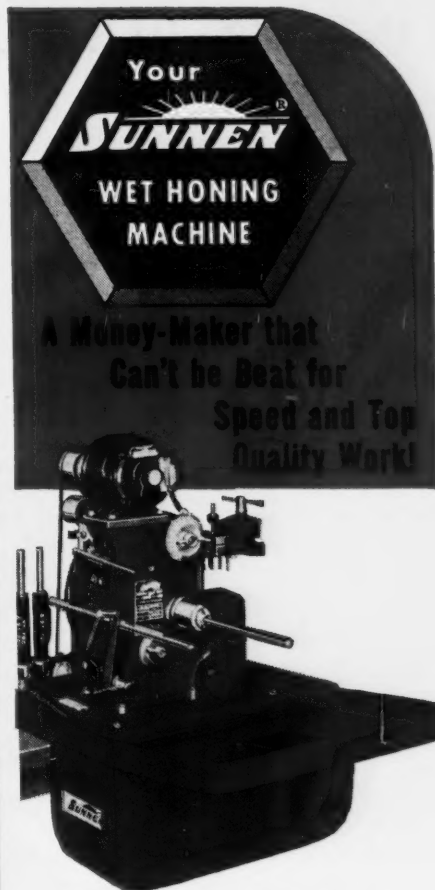
The use of a torque indicating wrench is necessary to obtain proper uniform pressure on all bolts to avoid warpage of the cylinder head or distortion of the block head valve seats and cylinder boards, from over-tightening. The extreme importance of maintaining cylinder head joint tightness demands careful attention to all instructions on installation of new gaskets, proper order of tightening bolts, correct torque to apply and rechecking torque after new gasket installation. The water pump is the only power driven unit in the system. Maximum pump speed of 5000 rpm is not uncommon. Some pumps circulate more than 6 gallons of coolant per minute. Pumping failures are most often caused by broken or loose drive belts. But edge wear of the impeller blades and wear of the pump housing also reduce pumping capacity. Sand, rust and other abrasive foreign matter in the coolant have a tendency to wear away the impeller blades.

Loss of coolant is not the only trouble that can result from a faulty water pump. Coolant leakage at the shaft if not properly corrected will destroy lubrication and cause corrosion and wear of the shaft and bearings. Even a slight leak at the pump or seal or at the connections between the pump and the radiator will allow air to be sucked into the cooling system at high engine speeds. Air suction in the system at a leaking shaft seal can force enough liquid out the overflow pipe to cause serious coolant shortage in a short period of high speed operation.

Mixing air with the coolant reduces the heat transfer and raises engine temperature enough to cause overheating at high engine output. Further introduction of air into the system may speed up rusting as much as thirty times.

Clogging and corrosion go hand in hand with neglected water pump leakage and air suction. The thermostat should not be overlooked on any engine as the function and operation of the thermostat is such that it does not have an indefinite life and can fail with little or no advance warning. The valve and operating mechanism is subjected to extreme temperatures, changes, corrosions, and also wear and bending movement.

The radiator pressure cap should be checked on all jobs that are so equipped. The properly operating pressure cap increases the normal margin of safety between coolant evaporating temperature and boiling point; this additional margin of safety helps to prevent boiling during operation in hot weather at high altitudes and under heavy load. This cap is located above the normal liquid level and receives little protection from inhibitors with the result that the cap and seals may fail from corrosion damage. Even a small amount of rust, scale or dirt will interfere with the operation of the pressure and vacuum valves. Frequent removal and replacement of the cap for coolant level observation increases the possibility of leakage and pressure loss due to wear of the gasket and cap locking mechanism. If an air leak is above the liquid level, such as the top gasket or pressure valve, it will prevent the pressure from building up and the benefit of the pressure cap will be lost. If the pressure cap fails to open sufficiently, the pressure may build up in the system and break radiator seams or blow off the hose connections. Failure of the vacuum valve to open when the system cools may cause collapse of hose and other parts which have no internal support.



John Drahovzal knows how important it is to have equipment that pays its way. That's why he is so enthusiastic about Sunnen Wet Honing Machines.

Throughout the country, thousands of other satisfied owners also know that when it comes to producing straight, round holes... quickly and easily... and at a real profit... they can rely on a Sunnen.

Your Sunnen jobber will be glad to show you a Sunnen Wet Honing Machine — how you can handle most any bushing or small cylinder job from .480" to 2.625" in diameter, quickly and efficiently.

Call your Sunnen jobber NOW...and ask him to arrange a demonstration.

SUNNEN PRODUCTS CO.
2710 Manchester Ave., St. Louis 17, Mo.
Canadian Branch: Chatham, Ontario

Pop O'Neill Continued from Page 47

way home to dinner. Save a trip for Tommy. He's pretty busy with that carburetor. Aren't you, Tommy?" He turned the pleading eyes of a homeless puppy on Tommy. Tommy had seen the look before. He just grinned.

"Sure, Pop," he declared. "It might be more than just a battery. It might even be something far

beyond my limited capabilities."

"That's right," Larry picked up the thread. "Far, far beyond 'em. And then you'd be glad that I was there in full command of . . . of any situation which might arise."

Pop looked from one to the other, then shrugged. "Go ahead then, but don't get beyond your depth." He smiled to himself as

he started for the door.

"Oh, don't worry, Pop, I won't," Larry consoled him. "I won't even take my bathing suit."

"When he reached the beach, about half an hour before lunch time was due to commence, he had no trouble in locating the car. At the far end of the beach, as alone as they could get, sprawled a handsome beach lizard with a red-headed girl who, alone, could easily have talked Larry into fixing any car for free.

"Your car?" Larry asked the girl.

"No. His," she replied, examining with amusement this grease-stained, sweat-stained, coverall-clad specimen of humanity.

"Mine," the fellow smirked. "Right the second time. You're off to a good start, Pop."

"I'm not Pop," Larry snapped. "I'm Larry."

"Now that the introductions are over, you *may* fix the car," said the customer coolly. "That is, if you can."

"I can," said Larry grimly. "What's wrong with it?"

The young man looked up at the girl and laughed. "That's the trouble with all these mechanics. They soak you all the law will allow then have the nerve to ask you to tell them what's wrong. By the way, got a cigarette?"

Larry fished the deck from his pocket and shook one loose as he offered it to the girl.

"Suppose I take the whole pack," the man said removing them daintily but effectively from Larry's paw.

"We're fresh out and you can put 'em on the bill."

Larry bit his tongue and raised the hood of the stalled car. He tested the battery then pulled it out. With the back of his greasy hand he snapped he sweat off his brow. Under the beach umbrella the man and girl were laughing and chatting gaily. "I'll take it in and give your battery a charge," Larry informed them. "You can pick it up later."

"What do you mean 'charge'?" the man asked, suddenly interested. "That was a new battery just last week."

(Continued on page 130)

BALANCED

pre-tested . .

. . for full release and smooth engagement. That's why ReNu-Accurate Clutch Sets insure satisfied customers. Easier and quicker to install, too!

extra values . .

. . a balanced Re-Nu assembly is matched and mated with a new Accurate Powerflex plate, tested together for release, sealed and packaged. Costs you only the regular price of the component parts.



- balanced
- matched
- mated
- tested
- sealed
- packaged

ALL AT
NO EXTRA COST!

EXCHANGED OR SOLD OUTRIGHT THROUGH JOBBERS
FROM ANY OF 6 PLANTS IN U. S. AND CANADA



Accurate PARTS MFG. CO. 12435 Euclid Ave.
Cleveland 6, Ohio

MANUFACTURERS OF THE POWERFLEX CLUTCH PLATE

REPLACEMENT UNIT CO. 1505 Rockwell Ave.
Cleveland 14, Ohio

REBUILDERS OF GUARANTEED CLUTCH ASSEMBLIES

Refinishers Get Warning About Silicone Polishes

CLEVELAND.—Automobiles that have been treated with silicone-based polishes require special procedure in refinishing shops, according to technicians

As recently pointed out in leading automotive magazines, lacquer or enamel, when applied over a surface on which silicone polish has been used, will refuse to bind properly and has a tendency to crawl. As a result, small craters or pits commonly called "fisheyes" occur, as shown above.



PRICES
Quart \$1.00
Gallon \$2.25



NEW HELP

ON NEW REFINISHING PROBLEMS

Here's quick, handy help for refinishing shops in removing silicone polishes before refinishing!

Sherwin-Williams OK Silicone Polish Remover meets the problem presented by increasing usage of silicone preparations by car owners. *Unless all traces of these polishes are completely removed*, defects tend to appear in the new finish, due to lack of affinity between refinishing materials and the silicone polish ingredients. Since there is no way of knowing whether silicone polishes have been used on a car when it is brought into a shop, special precautions are essential.

OK Silicone Polish Remover is easy to use—cleans away silicone residues not removed by ordinary cleaning methods . . . helps to prevent costly finish failures. Don't be caught unprepared! Supplied through Sherwin-Williams OK Automotive Jobbers in quart and gallon packages. The Sherwin-Williams Co., Automotive Division, Cleveland 1, Ohio.

SHERWIN-WILLIAMS

AUTOMOTIVE FINISHES

Can early servicing sell more anti-freeze, p

READ WHAT DEALERS

DU PONT WAY TO



"The Early Servicing Plan increased my sales 50%! In dollars and cents it gave me 75% more profit. Sure I'm using it this year!"

MAYNARD FREUND
Third & Grand Serv. Sta., Des Moines, Iowa



"My customers demand 'Zerone' and 'Zerex'! The Du Pont plan helped increase sales approximately 63% last year. Am sure to use Plan next year."

LES FELLOWS
Park Ave. Conoco Serv., Minneapolis, Minn.



"I like to avoid last-minute rush. So we used the appointment system to service cooling systems in advance. It was good."

ALEX FROELICH
A & L Service Station, Mandan, N.D.



"Du Pont's Early Service Program made me \$700 clear. Any plan that makes that much money—I like!"

O. P. TRACEY
O. P. Tracey Super Serv. Sta., Detroit, Mich.



"Oklahoma weather often changes abruptly. The plan induced customers to have their cars winterized earlier. More profit, less rush for us; greater safety for car owners."

ED HADLOCK
Ed Hadlock Serv. Sta., Oklahoma City, Okla.



"The Du Pont Program meant an actual dollars-and-cents increase of 25% in my anti-freeze sales."

RICHARD NANCE
Brown Motor Sales, Toledo, Ohio



"About 90% of the cars we service take Du Pont anti-freezes. I like to be all set in advance, and the Early Service Program works fine for me."

CHARLES A. CARLIN
Carlin's Esso Station, Newark, N. J.



"The Du Pont Program is a natural to increase profits and overcome that last-minute rush. And I've found it pays to be ready early."

HARRY O'BRIEN
Harry O'Brien Serv. Sta., Pittsburgh, Pa.



"Any plan that helps sell more anti-freeze and more service is fine with me! And the Du Pont plan lets me space the work out . . . no rush at the last minute."

VERNE B. ANDERSON
Joe & Andy's Texaco Station, Denver, Colo.

parts and chemicals?

SAY ABOUT THE INCREASE PROFITS!



"90% of my sales of anti-freeze are Du Pont! The Du Pont plan meant a 600% increase in sales. And it meant a 200% increase in related service among 2500 customers!"

ERIC BOOTH

Sheridan Standard Serv. Sta., Chicago, Ill.



"The Early Servicing Plan enabled me to get plenty of business that would have gone elsewhere at the last minute. Sales of anti-freeze were up 50% too!"

W. V. AUSTIN, JR.

Austin's Service Sta., Washington, D.C.



"A lifesaver! The Du Pont plan makes friends as well as customers and profits. My anti-freeze sales doubled."

DELBERT J. AHLSTROM

Rose Park Serv. Sta., Salt Lake City, Utah



"Anti-freeze sales increased 35%. So did cooling system and related service sales. I'm going to start the plan even earlier this year!"

DAN A. GAYLORD

Gaylord's Serv. Sta., Birmingham, Ala.



"The plan helps me (1) get under the hood, (2) talk to more customers, and (3) make more sales relating to under-the-hood service."

JOHN G. SCHWEIGER

Schweiger Texaco Service, Denver, Colo.



"Sales of anti-freeze increased 15% over last year. And the plan helped me avoid the last-minute rush."

JOE DAVIS

Joe Davis' Sweeney Super Service, Peoria, Ill.



"I like the Du Pont plan . . . it builds business! And that's early business, too—not the hectic last-minute rush that gives you little time to talk and sell related services."

RAY E. BROWN

Ray's "66" Service, Spokane, Wash.

There's a dual market in anti-freeze. Du Pont makes both "Zerone" and "Zerex" to help you sell a bigger share of this market. Ask your jobber salesman how the Du Pont Early Servicing Plan can further increase your profits.

*Don't wait another day—call your
"ZERONE" and "ZEREX" jobber Now!*

REG. U.S. PAT. OFF.

REG. U.S. PAT. OFF.



REG. U.S. PAT. OFF.

150th Anniversary

**BETTER THINGS FOR BETTER LIVING
...THROUGH CHEMISTRY**

"Of course, we use a HARLEY-DAVIDSON Servi-Car"

— Says Clem Wamhoff, Service Manager
Forest Cadillac Co., Clayton, Mo.



CADILLAC
FOREST CADILLAC COMPANY
7733 FORSYTHE BLVD
CLAYTON 5 MO
TELEPHONE PARKVIEW 2420

March 31, 1952

Harley-Davidson Motor Co.
Milwaukee, Wisconsin

Gentlemen:

In the City of Clayton a large amount of our service work depends on our pick-up and delivery service.

Of course, we use a Harley-Davidson Servi-Car. It has proven itself in all qualifications, economy, efficiency and dependability.

Yours respectfully,
FOREST CADILLAC COMPANY
Clem Wamhoff
Clem Wamhoff, Service Manager

Thousands of car dealers are Servi-Car boosters. They'll tell you it is indispensable for rendering profitable, modern service. Today, more than ever, you need this time-saving money-maker and good-will builder.



Send for this Servi-Car booklet

It tells how Servi-Cars are used to keep shop work rolling on schedule, how they bring in new business, how they please customers, and how they advertise your name all over town. Send for your free copy today, or see your dealer.

HARLEY-DAVIDSON MOTOR CO., Dept. MA, Milwaukee 1, Wisconsin

SERVI-CAR

SERVICE SELLS MORE SERVICE

Pop O'Neill

Continued from Page 126

"I mean it needs charging because there isn't enough power left in it."

"What would cause that?" the man snapped. "Some gyp sell me an old battery and charge me for a new one?"

Larry's patience had about melted out of him. The breeze wafted cigarette smoke toward him. "No, I wouldn't say that," he replied. "Playing the radio late at night without the engine running might run it down pretty fast." He clanged the door of the tow car shut and was gone. Smugly he noticed in the mirror that the man was apparently doing his level best to convince the girl of something. He thought he knew what.

Late in the afternoon Larry happened to be the one nearest to the phone. He listened in comparative silence, his brow glowering more darkly as the seconds passed. Finally he snapped, "We'll send someone over," and banged down the receiver so hard that Pop looked at him in surprise.

"What's up, Larry?" he asked. "Wife leave home with a sailor?"

"No such luck," Larry snapped. "It's that guy way out at Long's Beach again. He says the battery I put in is dead too."

Pop whistled. "Picked the wrong one off the line, hey?"

"I didn't," said Larry. "Our battery was OK."

"Must be a short you missed," Pop commented.

"I checked all the connections," Larry replied. "Everything seemed OK."

"Did you check for a short with the loose end of the cable?" Pop persisted. Larry hesitated while he thought back to the broiling sun on the beach and the irritating gent involved. "No," he said slowly, "I don't believe I did."

"I guess," Pop remarked mildly. "That you can spend the afternoon at the beach."

When Larry reached the stranded car for the second time that day, the couple were still billing and cooing under the broad um-

(Continued on page 132)

"I gotta get me
one of them
Thor Polishers"



Thor PORTABLE POWER
TOOLS

INDEPENDENT PNEUMATIC TOOL COMPANY

There's BIG MONEY in the "shine" business — and most of it's PROFIT when you're shining cars with the new and amazingly powerful Thor Silver Line electric polishers. Standard and heavy duty models available. Right speeds, perfect balance, assure perfect polishing jobs. Call your jobber, or write "Thor." Independent Pneumatic Tool Co., Aurora, Ill.

VALVE REFACERS • VALVE SEAT GRINDERS • SANDERS
IMPACT WRENCHES • POLISHERS • DRILLS • SAWS
BODY AND FENDER HAMMERS • GRINDERS • HAMMERS
BENCH GRINDERS • SCREWDRIVERS • ACCESSORIES

FACTORY SERVICE BRANCHES IN 20 PRINCIPAL CITIES

brella. Favoring them only with a sidelong scowl as he stalked past, Larry promptly jerked out the dead battery and put in the second rental for the day. As soon as it was in the box and one cable secured, he took the loose end of the other cable and tested with it. Sure enough he got a sizable flash of sparks. A little grunt made

him turn toward the generator and try the cable end again. Sure enough, the generator was trying to motor.

Larry sighed with relief. He wouldn't be under that hot sun much longer. He longed for the relative coolness of the back room at Pop's shop. Quickly he removed the cover from the voltage

regulator. As he suspected, the points on the cut-out were stuck together. Quickly he cleaned the contacts and finished the job.

"There," he said triumphantly to the beach umbrella. "That fixes it."

"I beg your pardon," said the recumbent male coolly. "Who told you so?"

"Just drop by the shop on your way home," Larry continued. "We'll probably have to put on a new voltage-regulator and put your own battery back in."

"See," the young man sneered to the girl. "Just what I told you. Another new part, plus labor, plus road service, plus a fee for charging a new battery . . . That's the way to get rich quick and easy."

For a long minute Larry looked at the tanned but flabby torso, the well-manicured nails, the smug, smooth-shaven jowl, the nearly empty pack of Luckies.

"Yeah, this is the way to get rich easy," he agreed. "Why don't you try it?"

The young man laughed easily up at him. "Not me," he said. "That's strictly for the birds. But I have got a nephew who wants to be a stock car racer. What do you think about that?"

"Well," replied Larry. "I don't know how fast he drives. But if I was you, I'd stand in his way."

As he bounced along the road toward home that one sounded pretty good. He felt at peace with the world. He felt suddenly as though he had really earned his day's pay. And he felt that he was a pretty sharp character with the come-back too.



GUMOUT

"ON-THE-ENGINE"

CARBURETOR CLEANING

Makes Cars Run Better

**You can do it in
20 minutes**



Cleans Carburetors
on the engine
without hot system parts
removes old deposits

You can build customer good will by eliminating hard starting, stalling, bucking and rough idling caused by dirty carburetors. It's new business, new profits—from an entirely new, low cost service.

Order GUMOUT from your Jobber or send coupon today!





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Refiners of Penn Drake Petroleum Products
Since 1880

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Please send:

... Cases of GUMOUT (24 Pints) at \$11.60 per case

... Five-gallon pails of GUMOUT at \$5.20 per gallon

... GUMOUTERS at \$2.95 each

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Company.....

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City..... Zone..... State.....

Favorite Jobber.....



"Showing this gauge helps me give my customers the facts about their tires' ability to hold air—that interests them and starts things. Since riding comfort, safety and ease of steering are so closely tied to tires, sealing the air in, lubrication, shock absorbers, and the like . . . my customers just naturally see the need and buy many of the accessories and services I sell!"

You, too, can get profitable results from Certified Air Service. It's easy. Four simple steps in Manual A-200 show you how to do it. Write for your copy, today! And don't overlook your need for Schrader gauges! You can't *certify* your air service without *accurate* gauging equipment.

A. SCHRADER'S SON

Division of Scovill Manufacturing Company, Incorporated
470 Vanderbilt Ave., Brooklyn 17, N. Y.

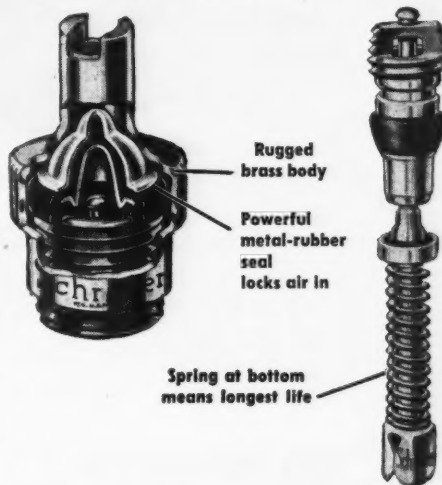
Schrader

REG. U. S. PAT. OFF.

FIRST NAME IN TIRE VALVES

FOR ORIGINAL EQUIPMENT AND REPLACEMENT

Genuine Schrader caps and cores are an important part of Certified Air Service.



The use of first quality repair materials with first quality service brings them back for more! Always specify Schrader.

Calendar of Coming Events

Aug. 24-26 — Automobile Dealers Assn. of W. Virginia, Greenbrier Hotel, White Sulphur Springs, W. Va.

Aug. 29-30 — Montana Automobile Dealers Assn., Many Glacier Hotel, Glacier Nat'l Park, Mont.

Sept. 6-8 — Georgia Automobile Dealers Assn., General Oglethorpe Hotel, Savannah.

Sept. 11-12 — Colorado Motor Car Dealers Assn., Shirley Savoy Hotel, Denver.

Sept. 12-13 — Maine Automobile Dealers Assn., Samoset Hotel, Rockland, Me.

Sept. 14-16 — New Mexico Automobile Dealers Assn., El Rancho Hotel, Gallup, New Mexico.

Sept. 14-16 — Kentucky Automobile Dealers Assn., DuPont Lodge, Cumberland Falls, State Park, Ky.

Sept. 14-16 — New York State Auto Dealers Assn., Hotel Syracuse, Syracuse, N. Y.

Sept. 15-16 — Wisconsin Automotive Trade Assn., Schroeder Hotel, Milwaukee.

Sept. 15-16 — Automobile Dealers Assn. of North Dakota, Elks Club, Fargo, N. D.

Sept. 20-22 — South Carolina Automobile Dealers Assn., Ocean Forest Hotel, Myrtle Beach, S. C.

Sept. 21-23 — South Dakota Automobile Dealers Assn., Cataract Hotel, Sioux Falls.

Sept. 21-23 — Arkansas Automobile Dealers Assn., Arlington Hotel, Hot Springs Nat'l Park, Arkansas.

Sept. 22-26 — Federation of Automobile Dealers Assn. of Canada, Montreal, Quebec.

Sept. 25-26 — Kansas Motor Car Dealers Assn., Hotel Broadview, Wichita, Kansas.

Sept. 25-26 — New Jersey Automotive Trade Assn., Traymore Hotel, Atlantic City, N. J.

Sept. 29-30 — Minnesota Automobile Dealers Assn., Nicollet Hotel, Minneapolis.

Oct. 9-11 — Pennsylvania Automotive Assn., Chalfonte-Haddon Hall, Atlantic City, N. J.

Oct. 12-14 — Arizona Automobile Dealers Assn., Pioneer Hotel, Tucson, Ariz.

Oct. 16-18 — National Used Car Dealers Assn., Hotel Hollenden, Cleveland.

Oct. 19-21 — Florida Automotive Dealers Assn., Sans Souci Hotel, Miami Beach, Fla.

Oct. 20-24 — National Safety Council National Exposition, Conrad Hilton Hotel, Chicago.

Oct. 26-28 — Automobile Dealers of Alabama, Buena Vista Hotel, Biloxi, Miss.

Oct. 26-28 — Tennessee Automotive Assn., Noll Hotel, Nashville.

Nov. 6-7 — Society of Automotive Engineers, Chase Hotel, St. Louis, Mo.

Dec. 1-2 — Idaho Automobile Dealers Assn., Boise.

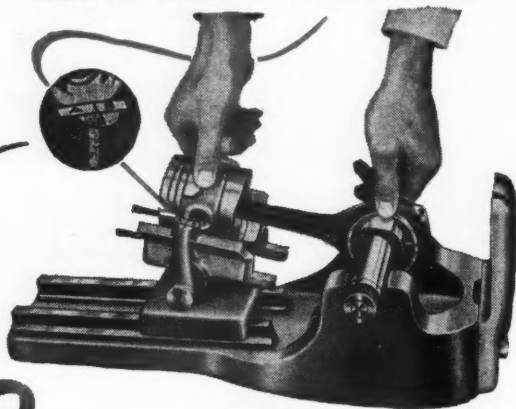
Dec. 8-10 — Ohio Automobile Dealers Assn., Statler Hotel, Cleveland.

Feb. 14-18 — National Automobile Dealers Assn., San Francisco, Calif.

March 26-29, 1953 — Southwest Automotive Show, Automobile Bldg., Fair Park, Dallas, Texas.

Lisle

THE ONLY
ROD ALIGNER
WITH POSITIVE INDICATOR WHICH
ELIMINATES GUESSWORK



- ★ Checks for both Bend and Twist.
- ★ Straightens Rods Quickly, Easily.
- ★ Operates with or without piston on rod.

TRY IT BEFORE YOU BUY IT ON
LISLE "LEND LEASE"

LISLE CORPORATION
Box 1024, Clarinda, Iowa

it's a good tool...it's a

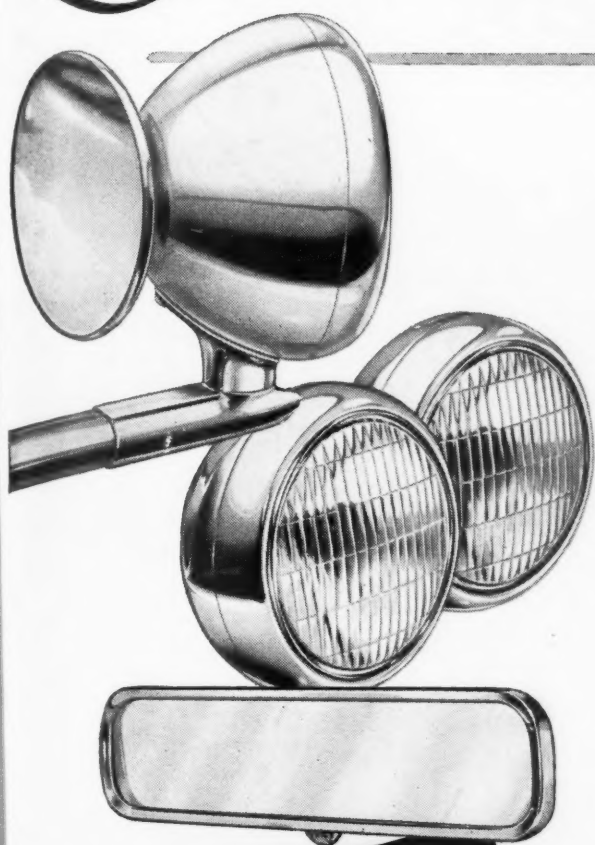
Lisle

JEEPERS CREEPER now sold exclusively by LISLE



"I suppose you know this is going to raise hell with the budget!"

Sell the finest!



GUIDE LAMPS— for all your lighting needs

Spot lamps, fog lamps, headlamps, tail lamps—lamps for every automotive application—are built by Guide. In addition, Guide makes turn signals, rearview mirrors . . . lamp parts, units, reflectors and lenses. Guide is the *complete* line, the *quality* line . . . acknowledged leader in the field of lighting equipment for passenger cars, trucks, tractors and buses. Guide products go hand in hand with good business. You can't sell better.

The BRIGHTEST Name in Lights



GUIDE LAMPS—A UNITED MOTORS LINE
Available Everywhere Through
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Automobiles

Backup Lamps • Driving and
Passing • Fog • Parking •
Spot • Stop and Tail • Turn

Signal • License Plate Lamps •
Headlamps • Multi-Purpose
Unit • Sealed Units • Turn
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Trucks and Buses

Guidex Reflex Reflector Units •

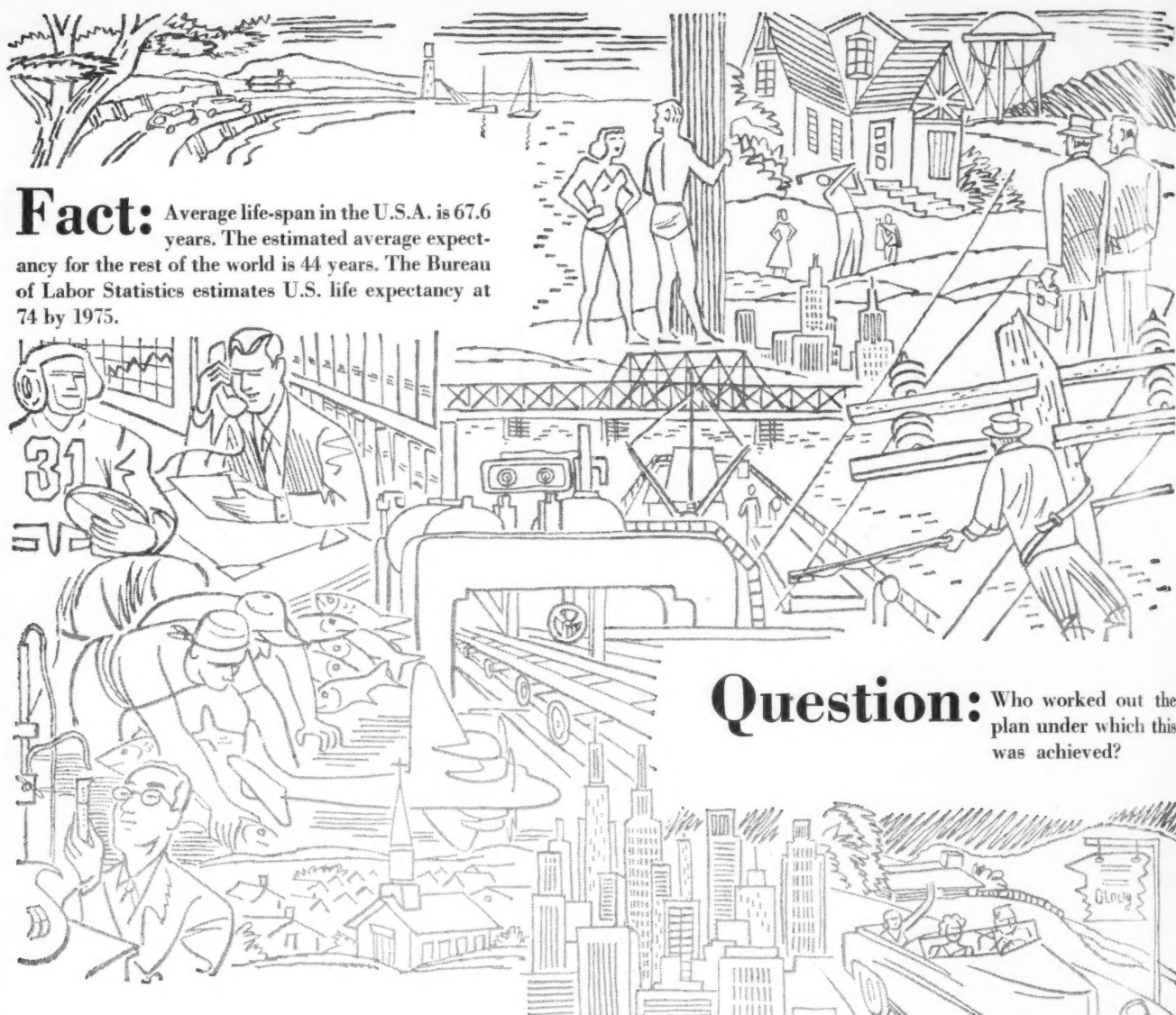
Clearance Lamps • Side
Marker Lamps • Dome Lamps •
Stop Lamps • Panel Lamps •
School Bus Warning Lamps •
License Plate Lamps • Head-
lamps • Turn Signal Lamps •
Spotlamps • Tail and Stop •

Combination Tail, Stop and
Turn Signal • Turn Signal
Switch • Rearview Mirrors

Farm Tractors

Headlamps • Stop and Tail •
implement • Dual Purpose

GUIDE LAMP, DIVISION OF GENERAL MOTORS CORPORATION • ANDERSON, INDIANA



Fact: Average life-span in the U.S.A. is 67.6 years. The estimated average expectancy for the rest of the world is 44 years. The Bureau of Labor Statistics estimates U.S. life expectancy at 74 by 1975.

Question: Who worked out the plan under which this was achieved?

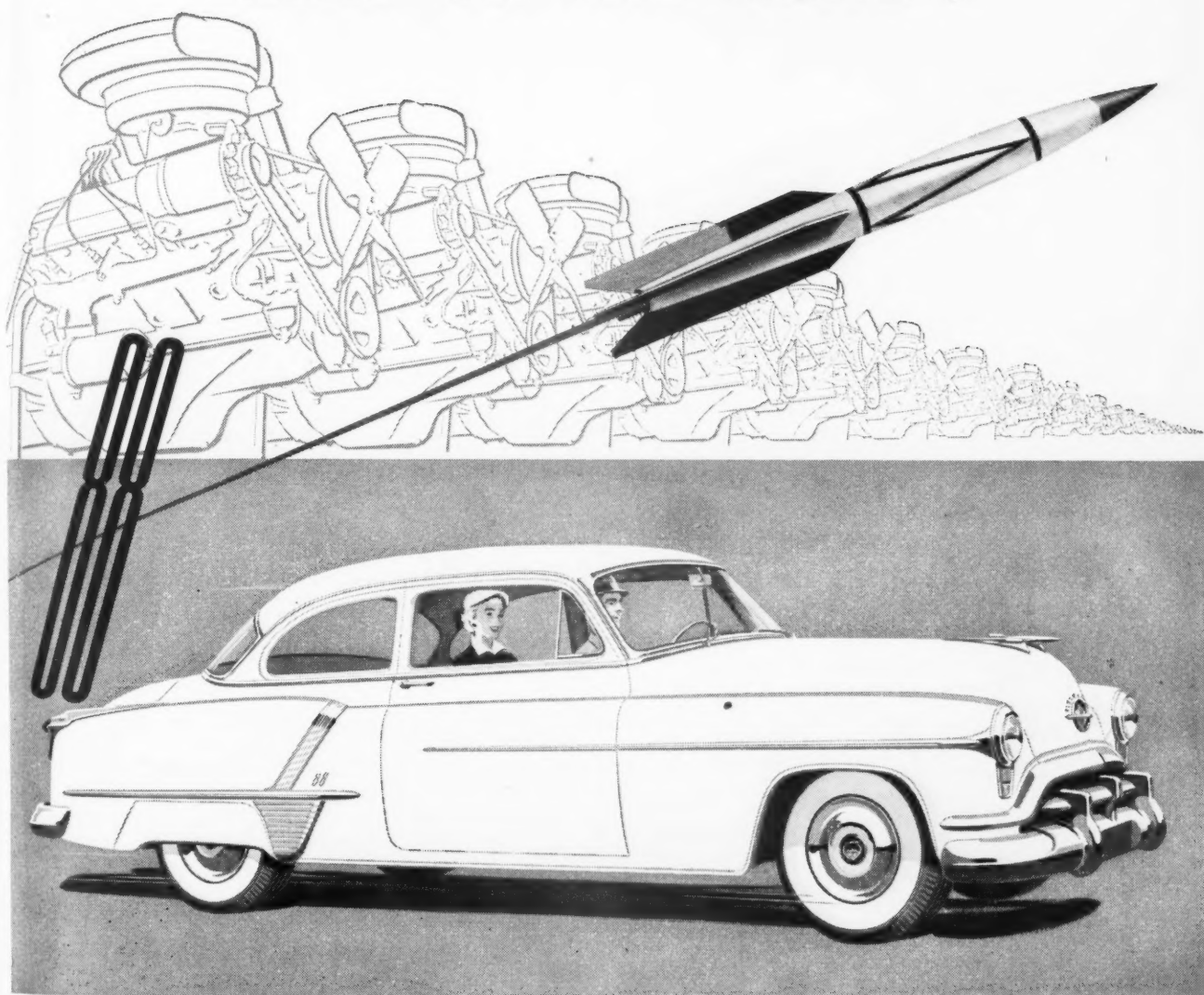
Answer: No one. It is the result of a process, not a plan. It came about largely through the American process of vigorous competition to provide life-saving new medicines, proficient doctors, modern hospitals, better shelter, abundant food supplies and machines that reduce work-effort. The average man-hour of work in 1951 produced $3\frac{1}{2}$ times as much goods as the average man-hour in 1900. Hence, the same process is responsible for more leisure to enjoy longer life. Competition compels wider distribution, increasing productivity and better products, thereby improving and extending our individual lives.



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THE COMPETITIVE SYSTEM DELIVERS THE MOST TO THE GREATEST NUMBER OF PEOPLE

MORE THAN A MILLION "ROCKETS" NOW ON THE ROAD!



Above, Oldsmobile Super "88" 2-Door Sedan.

... and every "Rocket" in
owner hands is a powerful
salesman for

OLDSMOBILE

GENERAL MOTORS CORPORATION • LANSING, MICHIGAN

Remember the excitement when Oldsmobile launched its first "Rocket"? That was in 1918 . . . and since then, more than a million "Rocket" Engines have poured from the Oldsmobile lines. More than a million "Rocket" Oldsmobiles now in owners' hands . . . giving them the most thrilling driving they have ever known!

Each year, this great Oldsmobile engine has been improved—this year with a new Quadri-Jet Carburetor and new High-Lift Valves to boost its horsepower to a spectacular 160. And the basic "Rocket" design—imitated though it has been—stands as one of the top engineering achievements of the past decade.

That's one big reason why Oldsmobile is rocketing to new highs in popularity—that's why dealers all across the country know—it's smart to Be with Olds!

EDDIE CANTOR

June 12, 1952.

Mr. Walter Sullivan,
50 Allston St.,
Cambridge, Mass.

Dear Mr. Sullivan:

A friend of mine in the automotive business tells me you Automotive Salesmen think you're a pretty tough bunch. You sometimes growl at each other, you're not above straining an elbow now and then, your language is not always lady-like, and so on.

I know better. I've seen you big "bullies" in action.

When you found that the guy next to you needed some help — when you learned that he was worrying because his relatives and friends were up against it — well, you just said "So what! We'll all pitch in and help."

It didn't matter to you that he was not of your church, that perhaps he was Jewish and his relatives and friends were in Israel struggling for their lives. You just said in your hard-boiled way "Aw, shadup and let's get started. We'll help get them on their feet."

In my book, you're a wonderful gang, you Automotive Salesmen. America and the world are better off because of you. Your Jewish friends will never forget your help and hard work on behalf of the Christian Automotive Division of the United Jewish Appeal. On behalf of U.J.A., I say, God bless you all!

Sincerely,

Eddie Cantor

Eddie Cantor, Chairman,
National Leadership Mobilization
UNITED JEWISH APPEAL

EC:bs

[[September is U.J.A. Month. Christian Automotive Division. When you are called on for a donation or pledge, give generously to this worthy cause.]]

A Great Quality Product

WANTED By Millions!

MORaine ENGINE BEARINGS HAVE
A 38-MILLION-CAR MARKET

Moraine engine bearings are the *original equipment* bearings on millions of cars and trucks . . . the pre-sold bearings on half the cars that pass your door. Moraine *replacement* bearings fit an additional 20 million cars and trucks. Think of the *opportunity* . . . the market Moraine represents for you!



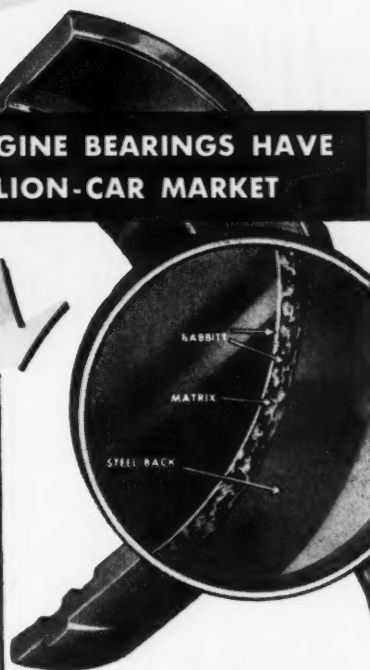
MORaine ENGINE BEARINGS
A United Motors Line
Available Everywhere Through
UNITED MOTORS DISTRIBUTORS

Here are some of the reasons why Moraine is the bearing you should stock and sell:

1. **QUALITY.** Moraine engine bearings are of uniform high quality . . . with original equipment tolerances . . . the *proved favorite* for original equipment.
2. **AVAILABILITY.** Moraine engine bearings are available everywhere through United Motors distributors to fit 38 million cars and trucks.
3. **DUREX-100.** At the head of the Moraine original-equipment line is this exclusive, advance-type bearing that's made to take the extreme loads and stresses of today's high-speed, high-compression engines.

8 ways better!

1. Greater resistance to fatigue.
2. Increased load capacity.
3. Greater conformability.
4. Better embedability.
5. Stronger bond.
6. Greater resistance to scoring.
7. Greater resistance to corrosion.
8. More durability.



THE MATRIX MAKES THE DIFFERENCE.

Steel-backed middle layer (or matrix) of porous copper-nickel bonds mechanically and metallurgically with babbitt overlay to give Durex-100 increased embedability and greater resistance to fatigue.

Add Moraine's uniform high quality . . . reputation . . . tremendous pre-sold market . . . availability . . . completeness—and you'll stock and sell Moraine engine bearings now!

MORaine PRODUCTS

DIVISION OF GENERAL MOTORS
DAYTON, OHIO

THE BIG SWING IS TO PEDRICK

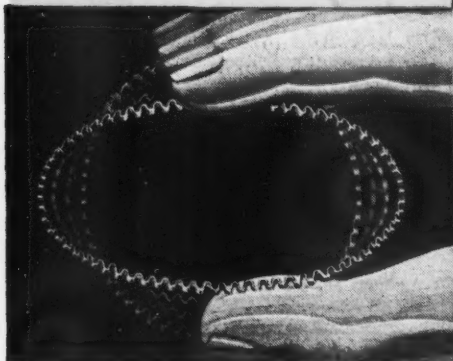


**Guaranteed to Out-perform in Any Job
... Re-ring ... Re-bore ... Re-sleeve!**

Only the Pedrick "Equalizer" could assure such performance—and only FORMFLEX has the "Equalizer!" This entirely new all-purpose oil ring in engineered sets is available now for all popular cars. Ask your jobber today!

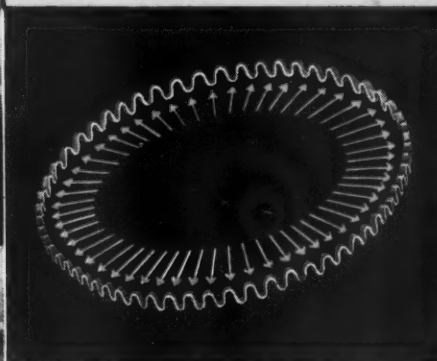
AMAZINGLY CONFORMABLE

Made possible by a revolutionary new type of expander ... the Pedrick "Equalizer." Gives complete contact with cylinder.



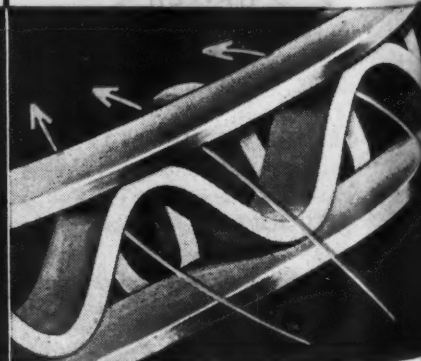
UNIFORM PRESSURE DISTRIBUTION

The "Equalizer" gives equal outward pressure all around, with more perfect seal—better oil control—far longer life.



ALMOST TRIPLE OIL DRAINAGE

Because of $2\frac{1}{2}$ times more open area provided by the "Equalizer" and the Spacer. Eliminates any chance of plugging.





SETS



Pedrick

**FORMFLEX
PISTON RINGS**

WILKENING MANUFACTURING CO., PHILADELPHIA 42, PA.

In Canada: Wilkening Manufacturing Co. (Canada) Ltd., Toronto

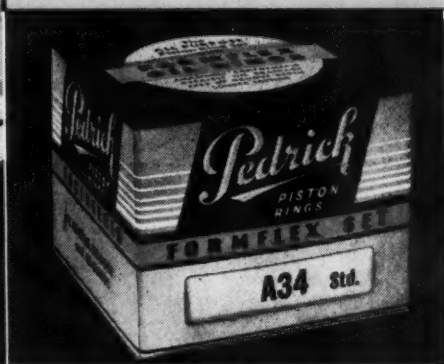
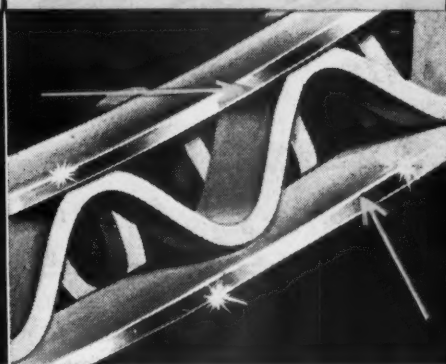
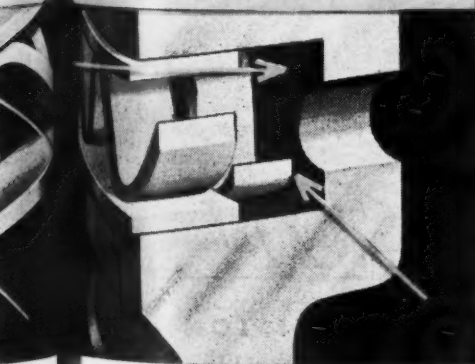
INDEPENDENT OF GROOVE DEPTH

The "Equalizer" does not rely on contact with bottom of piston groove for its pressure or tension.

CHROME FOR LONG LIFE

The faces of the two steel rails are chrome plated for 2 to 4 times longer life.

**There's a "NEW ENGINE"
in every box**





HARRISON THERMOSTATS

good for cars...
good for you!

Automatic control of engine temperature, winter and summer, is essential to best engine performance, long engine life.

Harrison thermostats supply this automatic control. Right now, many motorists will be changing from their high-level (winter) thermostats to the Harrison summer-adjusted models.

This is good business, for the motorists and for you. With only 10 different Harrison models you can service 90 per cent of the old as well as the current-model cars in operation today.

For genuine Harrison thermostats—used as original equipment on more cars and trucks than any other make—call your nearest United Motors distributor.

HARRISON THERMOSTATS

A GENERAL MOTORS PRODUCT



A UNITED MOTORS LINE

DISTRIBUTED BY WHOLESALERS EVERYWHERE

HARRISON

HARRISON RADIATOR DIVISION
GENERAL MOTORS CORPORATION, LOCKPORT, NEW YORK

Do You Sell Cartridges on **FACT** or *Fancy*?



Don't stake your reputation on fancy claims — sell the cartridge that offers you proof of superiority!

THERE are plenty of claims going around in the filter industry... but there's only one filter manufacturer who offers you *positive proof* of superiority... **FRAM FILTERS BEST** by actual test! (See chart.)

Your customers read this proof, too... in *Saturday Evening Post*, *Collier's*, *Life* and other big national magazines. Your reputation—and your business—depend on the quality of merchandise you offer. Make sure you sell your customers **FRAM Filters and Cartridges**... they're the best that money can buy!

Send for Free Copy of FILTER FACTS



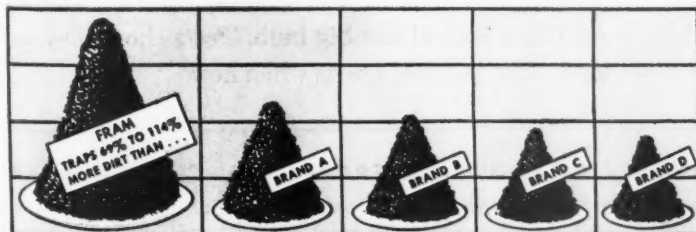
Here's a booklet that has turned the filter industry topsy-turvy... the first *complete story* of oil filtration to be told to the trade!

Send for your copy today, and learn the *actual facts* about the filters you sell!

FRAM CORPORATION, Providence 16, R.I. In Canada: **J. C. Adams Co., Ltd.**, Toronto, Ont.

Here is PROOF by actual test

FRAM *FILTERS* BEST



This chart shows the results of impartial laboratory tests, conducted under strictly controlled conditions, showing that Fram Cartridges trap from 69% to 114% more dirt than any other cartridges tested! Here is absolute proof that Fram is the best, the fastest selling, the most profitable line for you to handle... because Fram gets oil *cleaner*, cleans it *faster*, keeps it clean *longer* than ordinary cartridges!

FRAM

OIL • AIR • FUEL • WATER

FILTERS

There is a difference in sealed-beam headlamps

...and this
is it →



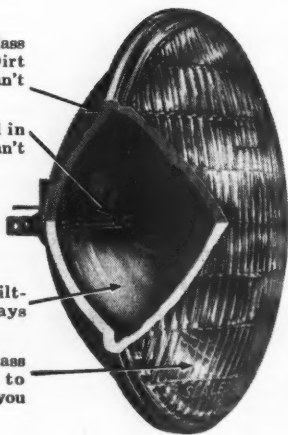
All-Glass sealed-beam headlamps do not grow dim

One-piece All-Glass construction. Dirt and moisture can't get in.

Filaments held in vise-like grip. Can't shake loose.

Mirror-like, built-in reflector. Stays bright.

Rugged, hard-glass precision lens to put light where you want it.



WHEN YOU BLOW ON YOUR GLASSES, moisture condenses on the lens. When moist air gets inside some types of sealed-beam headlamps, the same thing happens. It condenses on lens and reflector. And as the water deteriorates the reflector, the lamp grows dimmer.

Moisture *can't* get into General Electric sealed-beam headlamps because they're All-Glass and all one big bulb. Tests show they average 99% as much light after years of use as when new.

MAKE EXTRA DOLLARS FROM FALL CHANGEOVERS

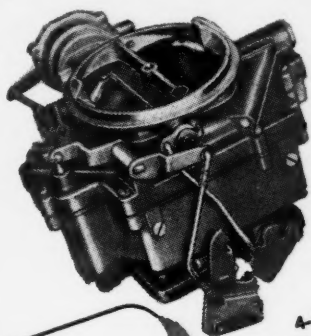
Check all the lamps on the cars you service. It's easy, takes only a few minutes—and pays off in profitable sales of G-E headlamps, tail lamps, dash and dome lamps. Surveys show 1 car out of 3 needs at least one lamp replaced. You're sure of satisfied customers when you recommend and install G-E lamps.

You can put your confidence in—

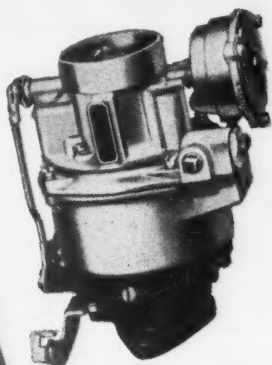
GENERAL  **ELECTRIC**

ROCHESTER'S

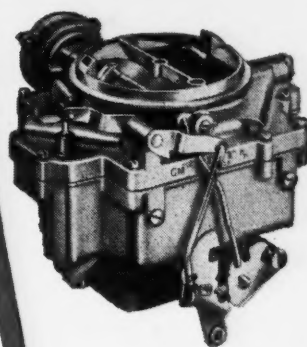
winning hand!



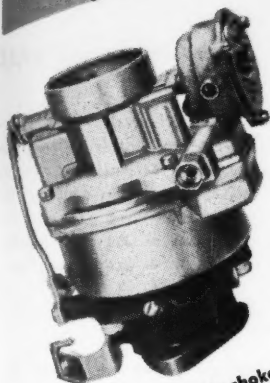
4-JET
automatic choke
CARBURETOR
original equipment on
CADILLAC



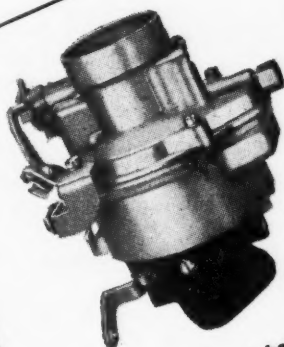
automatic choke
CARBURETOR
original equipment on
PONTIAC "6"



4-JET
automatic choke
CARBURETOR
original equipment on
OLDSMOBILE



automatic choke
CARBURETOR
original equipment on
CHEVROLET
POWERGLIDE

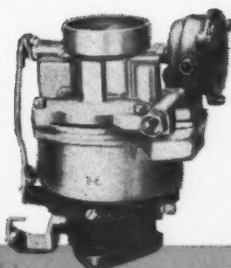


manual choke
CARBURETOR
original equipment on
CHEVROLET
standard models

Plan now to handle this Rochester "winning hand" and reap the advantages of the expanding market for Rochester carburetors. Your Rochester wholesaler will show you how easy it is to get started with Rochester.



CARBURETORS



and in addition—
a new accessory unit—an automatic choke
CARBURETOR for all CHEVROLET standard
passenger cars and light trucks built since
1937, further increasing the volume poten-
tial of the Rochester line!

ROCHESTER PRODUCTS

DIVISION OF GENERAL MOTORS, ROCHESTER, NEW YORK

ROCHESTER CARBURETORS

A GENERAL MOTORS PRODUCT



A UNITED MOTORS LINE

DISTRIBUTED BY WHOLESALERS EVERYWHERE

Proved and approved
for over 13 years

SAGINAW *Hydraulic* POWER STEERING

***Now available on 1952 model
Oldsmobiles, Buicks and Cadillacs**

Since 1939, when it was introduced, Saginaw hydraulic power steering has proved its worth over and over again on thousands of commercial vehicles.

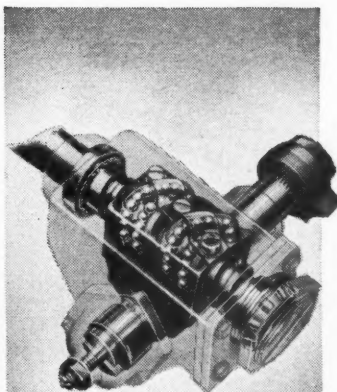
Now Saginaw hydraulic power steering is available on passenger cars! And already it has won wide acceptance, for "there is no steering like power steering . . . and no power steering like Saginaw hydraulic power steering."

This new application of the Saginaw hydraulic power steering principle is amazingly simple in design . . . has fewer moving parts, fewer parts in all. It retains the natural feel of ordinary steering at moderate speeds, but makes a spectacular reduction in steering effort at low speeds or for parking.

IF IT'S EASY TO STEER . . . IT'S A SAGINAW GEAR

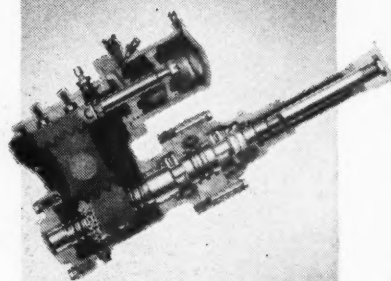
Saginaw
STEERING GEAR DIVISION

General Motors Corporation, Saginaw, Michigan



RECIRCULATING BALL PRINCIPLE

Saginaw's famous recirculating ball principle provides friction-free operation that is unique in the industry. It is a principle proved in over a million automotive steering gears.



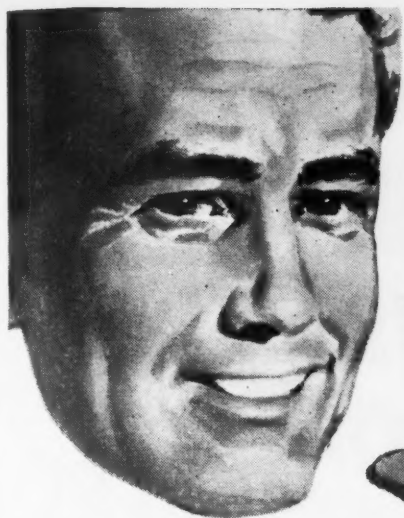
HYDRAULIC POWER STEERING

A hydraulic booster multiplies driver steering effort, makes it easy to swing the wheel of the biggest car traveling at any speed—or even when standing still.

**Optional equipment at extra cost*

SSG
PRODUCTS

STEERING GEAR ASSEMBLIES •
STEERING LINKAGE ASSEMBLIES
• PROPELLER SHAFTS • DIESEL
ENGINE AND AIRCRAFT PARTS



I know a big selling
opportunity when
I see one!
It's Election Year!

NEW

Motorola car *Golden Voice* radio

EASY TO SELL
EASY TO STOCK
EASY TO INSTALL



all in one
model 401A

\$39⁹⁵

What a double-barreled chance for sales and profits this is! Not only is it election year when everybody wants the news at his fingertips *wherever* he is—but here's a Motorola price that opens the door to a bushel of sales!

Only \$39.95—a sensational low price for this compact, all-in-one car radio—Alnico V Oval Speaker and a handsome chrome head produces Motorola's famous "golden voice" of radio. Installs easier than ever—fits almost any car.

You Can Offer a 4-Way Choice of Installation

Car and truck owners can choose the power and tuning they want—now you can offer a choice that makes selling easy:

1. deluxe custom set
2. golden-voice custom set
3. deluxe custom set with push button
4. golden-voice custom set with push button

See the Motorola complete line of car and truck radios at your distributor's now while the selling time is hot!

**QUALITY-BUILT
FEATURES INSURE
LONG LIFE
TOP PERFORMANCE**

**MIRROR-FINISHED
PISTON ROD**
assures positive wiping action

MULTI-LIP SEAL
seals in fluid, seals out dirt

SEALED FOR LIFE
all parts permanently sealed

**ROD GUIDE AND
BEARING**
insures positive, quiet action

CYLINDER
precision finished bore
insures proper fit

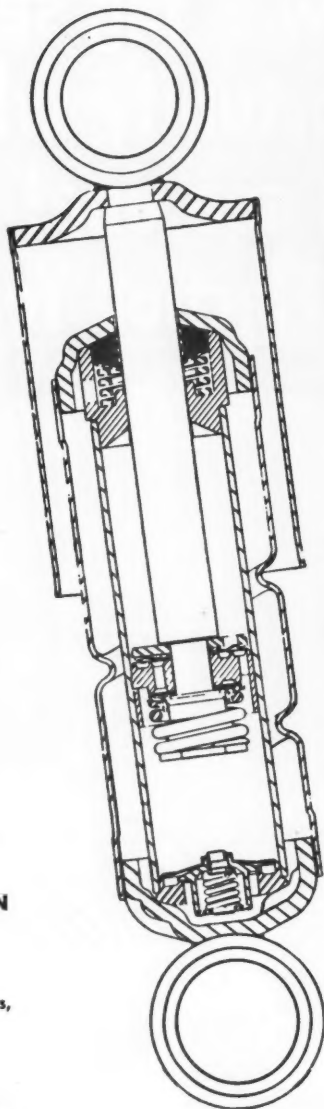
RESERVOIR TUBE
engineered for correct fluid
stability

PISTON
precision made for trouble-free
operation

"DUPLEX" VALVE DESIGN
assures uniform ride

SPECIAL FLUID
Delco-developed for all climates,
all conditions

**MOUNTING RINGS
AND BAYONETS**
scientifically welded for maximum
strength, durability



DELCO ENGINEERED RIDE CONTROL SHOCK ABSORBERS SET THE PACE!

**FIRST FOR ENGINEERING
DEVELOPMENT** Delco has pioneered and led—and continues to lead—in shock absorber development and engineering . . . a fact proved by Delco's many basic design shock absorber patents.

**FIRST FOR MARKET
COVERAGE** More than half the cars that pass your door are Delco shock absorber equipped. More Delcos are in use than any other make. Precision manufacturing facilities assure continuing acceptance.

**FIRST FOR CONSUMER
ACCEPTANCE** Motorists look for the Delco name; leading automotive engineers specify Delco shock absorbers for more new cars than any other make. They know that Delco fulfills all requirements for smooth, efficient, dependable operation and long life.

IT'S EASY TO GET INTO THE DELCO SHOCK ABSORBER BUSINESS

It's easy to stock and sell Delcos because Delco offers a wide variety of shock absorber assortments—large or small—to fit every type of business. Take advantage now of fast-turnover, customer-accepted products that assure quick profits! Order your Delco assortment today from your Delco Shock Absorber wholesaler.

DELCO SHOCK ABSORBERS

A GENERAL MOTORS PRODUCT



A UNITED MOTORS LINE

DISTRIBUTED BY WHOLESALERS EVERYWHERE

DELCO PRODUCTS DIVISION
GENERAL MOTORS CORPORATION • DAYTON, OHIO

★
**TREMENDOUS
PRESOLD MARKET**
assures huge, growing
profit opportunities

SELL
this one



USE
this one



QUICKER

Operates 50% faster than similar jacks! No parts to assemble, quicker to set up!

SAFER

Load rest is grooved into rolled steel rail. Rail helps carry load. Legs are locked apart.

EASIER

Thrust-type roller bearing for easier lifts! Handle is waist-high... no stooping!

FOR RE-SALE TO CAR OWNERS

MODEL 1020 SAF-LIFT

Car owners want a jack that's easy to operate, simple to set up and safe to use. That's why they want Saf-Lift! This unique jack was especially built to quickly and simply raise any car high enough off the ground for trouble-free tire changing. Gone is the huffing and puffing... gone is the stooping and bending... gone is the fear of having the bumper slip off the load rest. Here to stay is Saf-Lift, the bumper jack everybody wants—sales reports from dealers, store managers and service station operators bear this out!

FOR SERVICE USE

MODEL 1030 SAF-LIFT

Here's the Saf-Lift expressly made for service men! This heavier model has the strength and stamina to stand up under continuous service duty, yet it is just as easy to handle as its lighter-weight counterpart. Model 1030 is just the jack to take on emergency road calls... depend on it for efficient service lifts, even under toughest conditions. It also comes in handy as an extra jack around shop or station, when a quick, simple lift is needed. Write for FREE descriptive catalog bulletins on Saf-Lift, both models 1020 and 1030.

SUMMER VACATIONS MEAN BIGGER SAF-LIFT SALES... BE SURE YOU'RE READY TO MEET THE DEMAND!

AUSCO

AUTO SPECIALTIES MFG. CO., Dept. MA-8, St. Joseph, Michigan



*here's your
Job-Tested
Team*



FEL-PRO HEAD GASKETS

...and **FEL-PRO** INSTALLATION KNOW-HOW

You can't beat Fel-Pro Head Gaskets when it comes to perfect sealing on modern high compression engines. And you can't beat the Installation Know-How "Tips" in Fel-Pro's new GASKETING MANUAL. Put the two together and you've got a "Job-Tested Team" that will make every Head Gasket job a praise winner. That's why thousands of mechanics depend on Fel-Pro for all their gasket needs. They know that Fel-Pro engineers work in close harmony with leading car manufacturers—resulting in gaskets that are right in step with the newest developments in modern engines... Gaskets with these exclusive features:

- **SOFT FACED**... conforms to surface irregularities in head or block
- **STEEL CENTER**... for extra strength and ruggedness
- **SINGLE BONDED UNIT**... heat-proof and water-proof between laminations
- **WATER-PROOF ASBESTOS**... for maximum compressibility.

Make every job a Praise-Winner with this "Job-Tested Team"!

You'll get a smile on every job, too! Right Gaskets—Right Installation does it! And you insure both when you install Fel-Pro Head Gaskets and use the **FREE** Fel-Pro Gasketing Manual. See your Fel-Pro Jobber **TODAY** or write to: **FEL PRODUCTS MFG. CO., 1521 Carroll Ave., Chicago 7, Ill.**

Warehouses: ATLANTA, DALLAS, BOSTON, NEW YORK, LOS ANGELES, OAKLAND, PORTLAND

FREE this Fel-Pro GASKETING MANUAL containing over 30 easy-to-overlook gasketing procedures that can save you time, profit and come-back work. Here are many years of gasketing experience packed into a handy, pocket-size booklet.



Little Drip says:

825984

"Good mechanics always remember... no gasket is better than the installation... no installation is better than the gasket!"

ALCOA LO-EX[®]

Means Tested Pistons!

Your reputation is built on the performance of your repair job! If you install replacement pistons of ALCOA LO-EX*... you can be assured of proved performance... positive customer satisfaction.

The ALCOA LO-EX trademark stands for pistons that are tough, light in weight, low in expansion. Pistons that give your customer cool, quiet power that's easy on gas and oil.

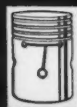
Be sure to stock aluminum pistons of ALCOA LO-EX alloy—cast by Alcoa, finished by expert piston makers.

ALUMINUM COMPANY OF AMERICA

1855H Gulf Bldg. • Pittsburgh 19, Pa.



Piston Castings of Every Type



T-Slot



Trans-Slot



Strut



Trunk Type

*Availability may be limited by military needs for aluminum.



ALCOA TELEVISION — CBS Network,
6:30 to 7:00 P.M. EDT every Sunday
on most stations — 8:30 to 9:00 P.M.
in far West

TRIED AND APPROVED

by **TIMKEN-DETROIT AXLE**

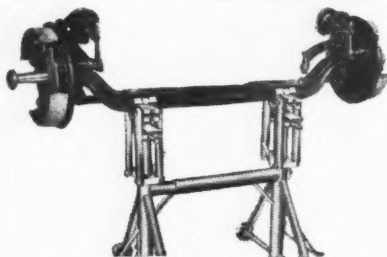
KRW'S NEW IMPROVED AXLE DOLLIE



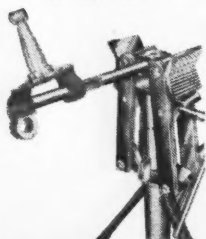
OUR THANKS TO TIMKEN for field-testing the new, improved KRW axle dollie in their service department. Above is a model H-150-H Timken-Detroit axle at one stage of disassembly. Timken's service engineering manager writes that this dollie is in constant use and has the unanimous approval of Timken mechanics!

\$115⁹⁵

F. O. B. FACTORY



Timken FD-900 Front Axle mounted on dollie. Flat jaws are grooved horizontally for holding reamers, etc., grooved vertically for gripping round shafts.



Clamping jaws can be turned and locked in any of four different positions, 90° apart. Clamping jaws can hold many parts that are awkward or almost impossible to hold in a vise.

SWINGS AXLES OPEN FOR COMPLETE OVERHAUL

Your mechanics don't have to be "weight-lifters" to do a complete axle overhaul with this new, improved KRW Axle Dollie. It handles the largest truck or the smallest car axles equally well. A few turns with a speed wrench and the axle can be separated into easy working position (shown above). That way a complete axle overhaul can be done without once removing the axle from the dollie. Pays for itself in a few overhaul jobs.

- Welded tubular steel — rugged, yet lightweight.
- Portable — easily wheeled to or from car or truck.
- Scientifically designed working height.
- Handles front or rear axles, drive shafts, drive shaft housing, many other parts.

Order from Dept. 87. Prices subject to change without notice.

K. R. WILSON

215 MAIN STREET

BUFFALO 3, N. Y.

WORLD'S LARGEST MANUFACTURER OF GARAGE TOOLS AND EQUIPMENT

SALES OPPORTUNITIES UNLIMITED

WITH THE
MIGHTIER
DELCO

BATTERY



DELCO BATTERIES

A GENERAL MOTORS PRODUCT



A UNITED MOTORS LINE

DISTRIBUTED BY WHOLESALERS EVERYWHERE

Delco offers you greater sales opportunity because Delco is the **NATION'S NO. 1 BATTERY**—first choice with car owners as well as first choice with the men who design and build the majority of the nation's cars and trucks. Sell the mightier Delco—the battery that is tops in performance, tops in popularity—built to meet today's driving demands!

GREATER ACCEPTANCE! Yes, Delco batteries are the choice of millions of car and truck owners. No other battery has the universal acceptance of Delco.

ORIGINAL EQUIPMENT LEADER! Delco batteries are original equipment on more cars and trucks than any other make. Almost 50% of car and truck owners who pass your door every day are *pre-sold* on Delco. Profit from this overwhelming preference!

FULL-SCALE SELLING AID! Delco's power-packed merchandising program puts extra punch in your selling . . . draws interest to your place of business . . . helps you cash in on the biggest battery market.

GET STARTED—TODAY! Contact your Delco Battery Wholesaler NOW and find out how easy it is to get started in the profitable Delco Battery business.

**EVERY DELCO BATTERY
HAS THESE FEATURES!**

- ✓ **MAXIMUM STARTING POWER!** In life performance tests, Delco Batteries showed maximum starting power, after months of operation.
- ✓ **NEW SUPER-QUICK STARTS IN COLD WEATHER!** Exclusive, patented "expander" formula used in making negative plates for batteries produces greatly improved action in cold weather.
- ✓ **NEW BATTERY RUGGEDNESS!** Exclusive high temperature vapor treatment of plates creates stronger, longer-lasting bond . . . insures greater resistance to shock and distortion.
- ✓ **NEW "BALANCED" GRAVITY RATING FOR FINEST PERFORMANCE!** The new "balanced" gravity rating of Delco batteries assures users of longer battery life. Extra battery life means extra miles per battery—more value for your money.
- ✓ **"TAILORED" CASES!** Delco has "tailored" cases for each battery model. Special sealing compound to prevent cracking and leaking. Visual filling device for instant servicing.

Gatke

BRAKE LINING

For the man who wants the best



A-T .42 for POWERFUL BRAKES

POWER that stays HIGH for added SAFETY and real STOPPING COMFORT. Specially adapted for cars with automatic transmissions.

To make stopping a pleasure you can recommend A-T .42 with assurance. There's nothing like it.

ask your GATKE Jobber or write

GATKE CORPORATION, 236 N. La Salle St., Chicago 1, Ill.

Manufacturers of

ASBESTOS BRAKE LINING FOR EVERY PURPOSE . . .
MOULDED ASBESTOS FRICTIONS—ALL SHAPES AND SIZES . . .
MOULDED FABRIC BEARINGS SERVING ALL INDUSTRIES . . . ASBESTOS TEXTILES

GET 50% MORE PROFIT

ON YOUR
UNDERCOATING
JOBS



LION *Nōkōrōde*

UNDER-CAR SEALER AND SILENCER

1. 50% More Jobs Per Drum



Nokorode is *concentrated*—no excess solvent. You spray Nokorode to 1/16" thickness—and it dries to almost 1/16". It's made *entirely* by Lion under U. S. Patent 2393774, assuring *controlled* uniformity, *controlled* quality. Nokorode goes 50% farther, yet costs no more than ordinary undercoatings. That means 50% more profit for you.

2. Easier Application... Lower Labor Cost



Nokorode is *uniform* for smooth application—no troublesome "blobs"... flows freely permitting steady pressure in the gun. There's no lost time due to lost pressure.

Nokorode is *stable*, made of highly compatible materials—won't separate in storage, won't clog guns or hoses. You avoid unnecessary clean-up jobs—you save man-hours and money.

Made and Guaranteed By

LION OIL COMPANY

EL DORADO,



ARKANSAS

FREE! Details on how to increase undercoating profit.

LION OIL COMPANY
El Dorado, Arkansas

Please send information on higher profits with LION NOKORODE.

Name _____

Address _____

City _____

State _____

**"At National
Cash Register
we believe . . ."**



STANLEY C. ALLYN

President, National Cash Register Company

"At National Cash Register we believe a thrifty employee is a better employee and a better citizen. By providing the Payroll Savings Plan for U. S. Defense Bonds we help our employees practice the thrift habit and build up a backlog of savings for their future security. By buying Bonds they become shareholders in their country."

The employee who joins the Payroll Savings Plan becomes *a man with an objective*—a young fellow who realizes that the systematic purchase of Defense Bonds is a sure way to the down payment on a home . . . a father who wants to provide for Junior's college education . . . an older man, with an eye to retirement and personal security.

The man with an objective is a better employee. He knows that a day lost from work is just that much out of his take-home savings. He doesn't take chances—wants to stay off the accident list. He has a new realization that better work on his part will lead to advancement—and a larger monthly allotment for Defense Bonds.

The man with an objective is a better citizen, holds his head a little higher. He is buying a growing share in

America . . . helping to combat inflation . . . making a real contribution to the defense effort.

These employee and *employer* benefits of the Payroll Savings Plan are reflected in the records of thousands of companies. Figures show that as employee participation in a Payroll Savings Plan grows to 60%, 70% or higher, absenteeism decreases, the "Lost Time Accidents" curve goes down and production goes up.

If 60% or more of your employees are not Men With Objectives, do something about it. Phone, wire or write to Savings Bond Division, U.S. Treasury Department, Suite 700, Washington Building, Washington, D. C., and your State Director, Treasury Department, will show you how to install a Payroll Savings Plan, or how to build an existing Plan.

During 1951, over 1,500,000 employed men and women joined the Payroll Savings Plan.

The U.S. Government does not pay for this advertising. The Treasury Department thanks, for their patriotic donation, the Advertising Council and

MOTOR AGE



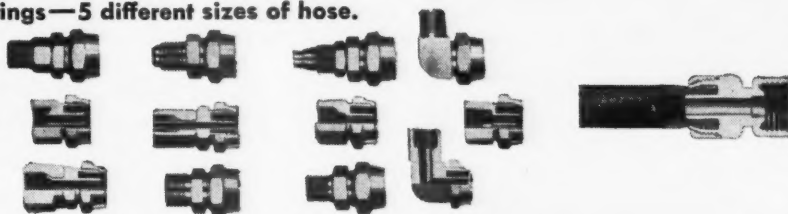


CAPT. EASY Says:

HOSE REPLACEMENTS
ARE **EASY** WITH
WEATHERHEAD
THE ORIGINAL
EQUIPMENT LINE

THERE'S A WEATHERHEAD HOSE ASSEMBLY FOR EVERY JOB
...the Weatherhead line is complete...over 1500 original
equipment automotive parts to make replacements **EASY**

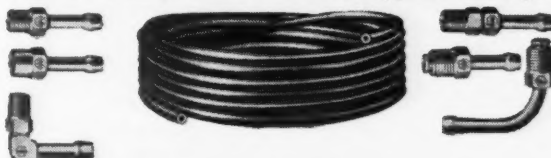
HOSE LINE REPLACEMENTS ARE **EASY** WITH QUICK ATTACHABLE REUSABLE FITTINGS AND
BULK HOSE—74 different fittings—5 different sizes of hose.



OIL-FILTER LINE REPLACEMENTS ARE **EASY**
with 56 different sizes and types of assemblies



WINDOW LIFT JOBS ARE **EASY**
with bulk hose and 7 different types of fittings



FUEL LINE REPLACEMENTS ARE **EASY**
with 68 different sizes and types of assemblies



BRAKE JOBS ARE **EASY**
with 113 different sizes and types of brake
hose and fittings



HEAVY-DUTY HOSE AND REUSABLE ENDS

—for trucks, buses, tractors, etc. Meet any require-
ment with Weatherhead's five types of heavy-
duty hose and REUSABLE hose ends. Write for
catalog J-1503.

Address: THE WEATHERHEAD COMPANY, Dept. D,
300 East 131st Street, Cleveland 8, Ohio.



The Mark of Quality

WEATHERHEAD

ON EVERY CAR!

GIANT **MOTOR OIL VALUE!**

**Because
it's a true
Heavy-Duty
Oil**



D-X DHD MOTOR OIL with EXTRINOL

The D-X "extra" of Extrinol lifts D-X Motor Oil out of the class of the heavy-duty "type" oils being offered today. D-X is a tough, safe, economical heavy-duty oil to offer your customers, and you can back your sales with a money-back guarantee. What's more, a consistent advertising campaign is telling the motoring public of the difference. If you are located in the Middle West and want to build profitable oil volume in your service department, write us.



**MID-CONTINENT PETROLEUM CORPORATION
TULSA, OKLA.**

Waterloo, Ia. Terre Haute, Ind. Omaha, Nebr.
Chicago, Ill. Minneapolis, Minn.

YOU NEED *Versatile* TOOLS...



YOU NEED CHANNELLOCK PLIERS

Made only by **CHAMPION DEARMENT**

Channellock pliers are Versatile. No matter what your repair job is you'll find some use for pliers—And where pliers are used, You'll Need Channellock.

Look at the features; Longer Wearing, No Wear On the Joint Bolt Closely Spaced Adjustments, Self Cleaning, Greater Strength—You'll see why every mechanic needs Channellock pliers. Channellock pliers are versatile.

And remember — **ONLY** Champion DeArment makes Channellock. Send for Catalog D8 today.

**CHAMPION DEARMENT TOOL CO.
Meadville, Pa.**

Channellock pliers are listed in the Yellow Pages of most Telephone Directories under "Tools"



Only

CHAMPION DEARMENT makes...

CHANNEL LOCK

TRADE MARK REG.

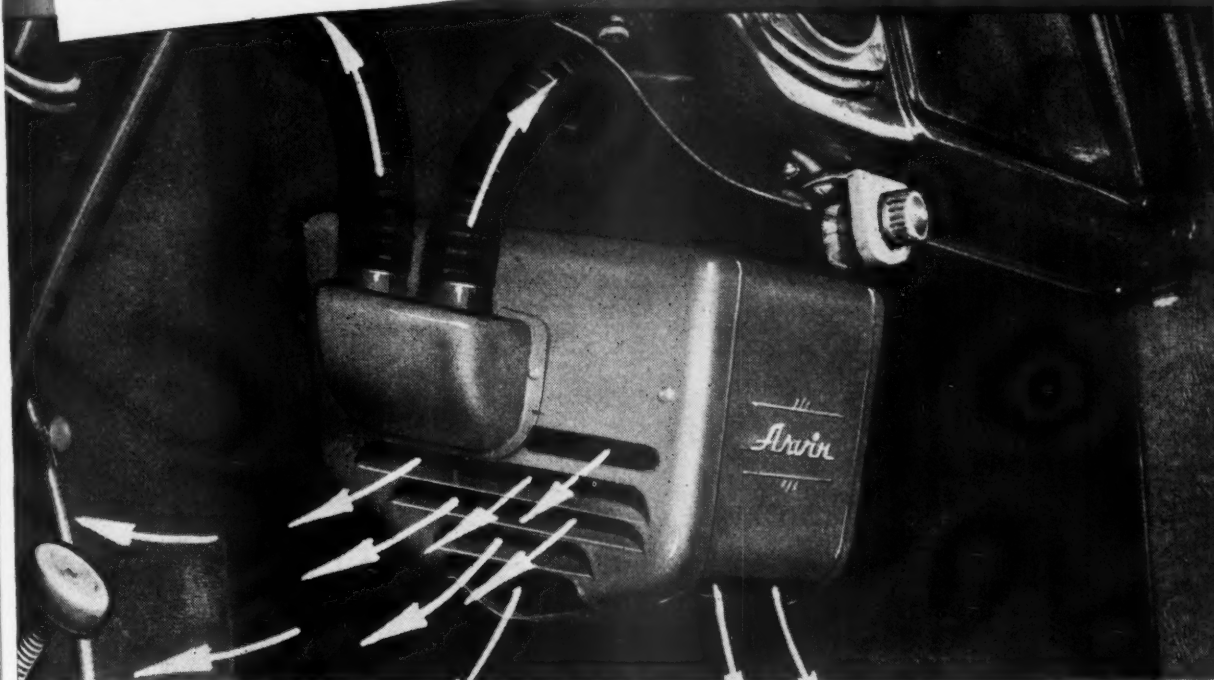
U.S. PATENT OFFICE

What could be sweeter
for sales?

• The world's finest car heaters
SAVE \$10 TO \$35 FOR EVERY CUSTOMER

Arvin

America's No. 1 Car Heaters



MODEL 200: Best hot water recirculating heater at any price.

Fits 'most anything that rolls — cars and trucks

No other car heater comes close to it in compact efficiency, ease of installation, and **LOW PRICE!** King-size radiator core has 2800 square inches of heat-radiating surface. Powerful 7 inch, 8 blade fan, with variable speed switch, moves up to 150 cubic feet of air per minute.

It recirculates **ALL** the air in a large car or a truck cab every 2 minutes. And look at the space this heater **DOESN'T** take! Newest functional design prunes down every corner and angle to fit the Arvin Model 200 into small spaces. Fast, easy installation in either cars or trucks.

ARVIN INDUSTRIES, INC., COLUMBUS, INDIANA
(Formerly Noblitt-Sparks Industries, Inc.)

See your **ARVIN** distributor • **NATIONAL ADVERTISING** pre-sells your customers

**LIST PRICE
ONLY**

\$25⁷⁵

Defrosters \$3.20 to
\$4.80 extra

Liberal dealer discount!

**MODEL 300: Finest fresh air, hot water heater
— fits Ford, Chevrolet and Pontiac cars**

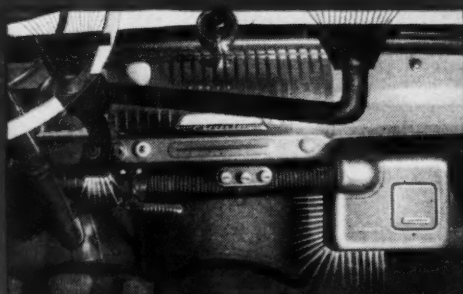
Chevrolet and Pontiac 1949-52, Ford 1950-51 and (with installation kit No. F-52) new 1952 Ford Models.

Year 'round comfort system — in winter a heater, in summer a cool air circulator. Installs to car's fresh air duct — in 90 minutes or less. Becomes a re-circulating heater with fresh air shut off. Big heat capacity. Powerful de-frosting with separate impeller-type blower. Power driven foot warmer. Complete in **ONE** package — heater, blower, defrosters, controls.

LIST PRICE ONLY

\$43⁵⁰

Complete in one package
(Installation Kit for
1952 Ford extra)
Liberal dealer discount!



Arvin: Best Known Name in Car Heaters

James MacDonald, Prexler & MacDonald, 6249 W. 26th St., Berwyn, Ill., says.



"I Make Good Money Selling Tire Chains"

"I've always made money selling tire chains because I've sold WEED for 28 years. Of course, I feature WEED V-Bars although many car owners still like WEED Regulars. I get my order in early and put several sizes out where my customers can see them. Many buy ahead of time. Those who wait at least know where to get them when the weather turns bad. The name WEED sure helps sell tire chains."

- Yes, the name WEED sure helps sell tire chains. For WEED Chains have always been *first* in research, *finest* in quality and *foremost* in public demand.

- For example, WEED V-Bars have flaring reinforcements with 288 gripping points that double the bite on ice or snow. Their opposite right and left construction gives two-way grip and balanced traction. So, WEED V-Bars stop shorter, start quicker, hold straighter, wear longer. They're safer. Tell your customers snug chains wear longer.

- WEED Zip-On Appliers make it easier to put chains on. Sell Zip-Ons with every pair of WEEDS.

ACCO AMERICAN CHAIN & CABLE COMPANY, INC.
York, Pa. • Bridgeport, Conn.



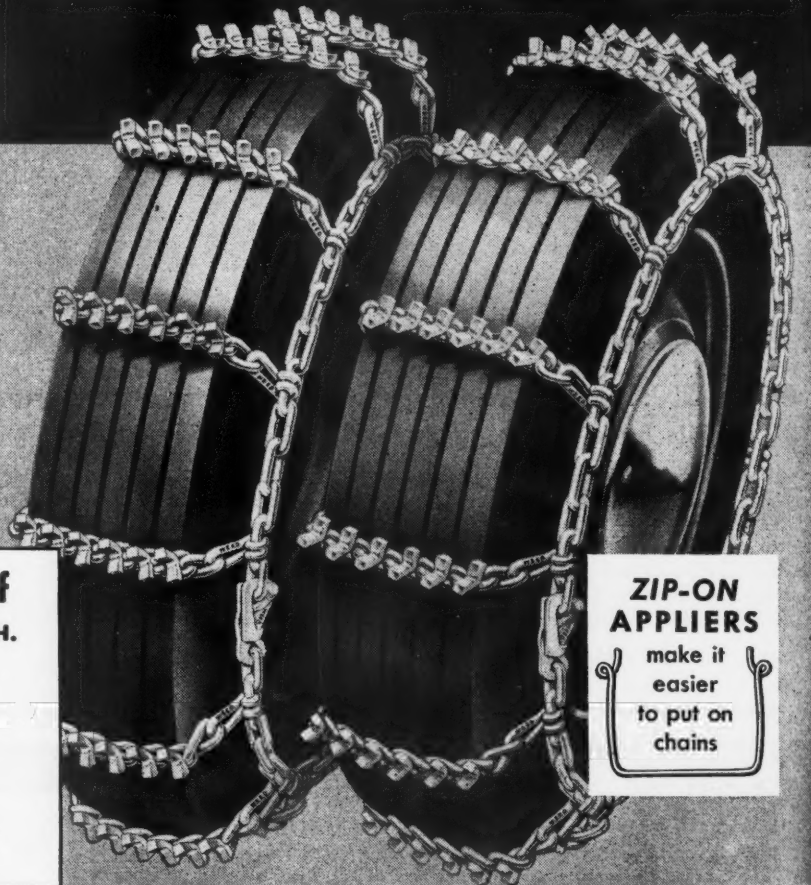
Don't S'kid Yourself

STOPPING ON GLARE ICE AT 20 M. P. H.

..... 77 ft.	with Reinforced Tire Chains
Natural Rubber Tires* 209 ft.
Winterized Tires 188 ft.
Mud-Snow Tires 201 ft.

*For stopping or starting on ice or snow, synthetic rubber tires skid or spin 10% to 50% more than natural rubber

Flaring Reinforcements with Right-Left Construction
GIVE DOUBLE GRIP and REDUCE SIDE-SKID



ZIP-ON APPLIERS
make it
easier
to put on
chains

**The Tire Chain that Doubles the Wear
and Doubles the Bite on Ice or Snow...**



WEED V BARS

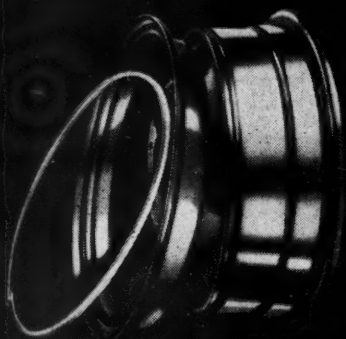
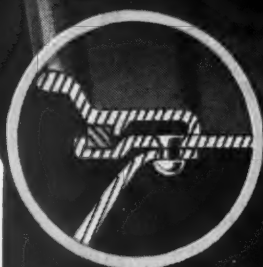
KELSEY-HAYES

Advanced Design

3 pc. Truck Wheel

With the
EXCLUSIVE 
Safe LOCKING DEVICE

Hailed by truck manufacturers and
tire servicing men as the safest ever devised!
As tire is inflated the retaining ring locks the
assembly even tighter. Also assures greatest
convenience in tire mounting, demounting,
and tube insertion!



Available in all popular sizes for
leading makes of trucks . . . to
increase tire mileage 20% to 50%!



KELSEY-HAYES WHEEL COMPANY

DETROIT 32, MICHIGAN



PRODUCTS: Wheels—Hub and Drum Assemblies—Brakes—Vacuum Brake Power Units—for Passenger Cars, Trucks,
Buses—Electric Brakes for House Trailers and Light Commercial Trailers—Wheels, Hubs, Axles, Parts for Farm Implements.
PLANTS: Kelsey-Hayes Plants in Michigan (4); McKeesport, Pa.; Los Angeles, Calif.; Davenport, Iowa; Windsor, Ontario, Canada.

REPAIRMEN GO TO BAT

for these Service Winners!



When it comes to big league service you'll find the Champ-Items Automotive Replacement Parts scoring big as Time Savers — Money Makers in repair shops and service stations. More than 200 service winners in the Champ-Items line for Faster — Better — Safer service.

Write for latest supplement of new items to our No. 500-R Catalog.

ORDER FROM YOUR JOBBER



CHAMP-ITEMS, INC.

6191 Maple Ave.

St. Louis 14, Mo.



Here's one of many popular Champ-Items Shop Assortments

No. MB-485

AUTOBODY and TRIM SCREW ASST.

Phillips Head Sheet-Metal type for all cars and trucks. Assortment is well balanced. 30 popular sizes from No. 6 to $\frac{1}{4}$ " diameter and $\frac{1}{8}$ " to $1\frac{1}{2}$ " long, nickel plated, total of 648 screws. Packed in strong metal box. Complete specification in lid of box. Screws list .03 each.

MAXIMUM EASE OF HANDLING

with WIREMOLD DEFROSTER HOSE

THE BEST ... AT NO EXTRA COST

- Fits every make and model of car.
- Specified as original equipment on most makes of cars.
- Makes 90° — 180° bends with ease.
- Resists cold — heat — oil — water.
- Saves 50% storage space, 6' lengths retract to 3' in package.
- Wiremold quality at competitive price.

No matter how awkward the job, Wiremold will bend to fit. Handles easily too. Wiremold is light in weight, clean to the touch and easy to cut to length. Furnished in lengths and in diameters to fit every make and model of car or truck.

Specify WIREMOLD for the best at reasonable cost

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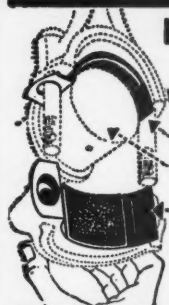
THE WIREMOLD COMPANY
HARTFORD 10, CONNECTICUT

14WM61

THE "JOURNALIZER"

ENGINEERED FOR PRECISION CRANKSHAFT TRUING

EASIER LESS COSTLY FASTER



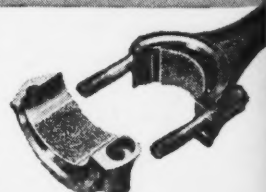
You can true journals to a smooth round finish quickly, accurately and economically thanks to the dependable JOURNALIZER. Precision JOURNALIZER

give lasting bearing performance to your customer's car. JOURNALIZER, the mechanics' unbeatable "little helper," is simple to use. Crankpins can be trued on any make car or truck without the costly job of removing the crankshaft, cylinder heads, knee action, axle, steering, oil lines, counterweights or engine supports.

Remove the oil pan and spark plugs . . . Install JOURNALIZER in place of engine bearing . . . Presto! the starter motor does the work. JOURNALIZER is supplied with coarse and fine replaceable inserts for rough cutting and polishing.



JOURNALIZER will true No. 1 journal on ALL engines. "Universal Kit," five sizes service all cars and most trucks, (except Ford V8).....\$35.00
Individual Kit 7.00 each
(Specify engine and model when ordering.)



Postma manufacturing company
691 East 18th Street, Paterson 1, N.J.

62 61st Place, Long Beach 3, Calif. Telephone: Long Beach 90-2240

PECO

SKID-DEFIER



NOW A MEMBER
OF THE

John
BEAN

FAMILY

Take advantage of a ready-made market with this newest member of the John Bean Family — the Peco Skid-Defier. Major tire companies are investing millions in advertising creating a demand for safer, longer-wearing, "deskidded" tires. This machine effectively deskids tires by slitting the tread. The market is ripe — motorists are eager for this new service. Make new profits with only a modest investment in a Peco Skid-Defier. Peco units and accessories are now available at your John Bean jobber — ask him for full information or write us.

JOHN BEAN DIVISION

FOOD MACHINERY AND CHEMICAL CORPORATION

LANSING 4, MICHIGAN



WHEEL ALIGNERS AND CORRECTION TOOLS • WHEEL BALANCERS AND BALANCING TOOLS
WEIGHTS • STEAM CLEANERS • CAR WASHERS • HEADLIGHT TESTERS

Car Dealers Launch Get-Out-Vote Drive

NADA has launched a nationwide campaign to stimulate a record turnout of voters in the national elections this fall. Dealers will offer free transportation on election day to those who need it, and prior to that time will distribute folders emphasizing the duty to vote, the importance of each individual vote, and the disturbing

drop in the total popular vote. Folders also will contain tally sheets for voters to record returns on election night. NADA also is planning to get actively into the campaign for better roads and parking facilities. It will join with the Inter-industry Highway Safety Committee to promote better highways and is urging state associations to appoint state and local highway safety committees.

Hudson Offers Orlon Convertible Top

Hudson has introduced convertible tops made of "Orlon," an acrylic fabric material highly resistant to sun and weathering. Hudson is the first to offer the new material and is making it available as a special option on all Hudson convertibles at slight extra cost. Chief advantages of Orlon is its ability to stand continual exposure to strong sunlight without appreciable damage, high wet or dry strength, and resistance to abrasion and stretch. The material is easily cleaned with solutions of mild soap or detergents.



SOUTHERN
FRICTION MATERIALS CO. - CHARLOTTE, N.C.

The "Name"
Makes Sales Easier



Herbrand

The choice of
professional mechanics
everywhere

Herbrand Tools, Fremont 7, Ohio
The Bingham-Herbrand Corp.

CHILTON'S
MOTOR
AGE
SUBSCRIPTION
RENEWAL
RATE
IS
THE
HIGHEST
OF
ANY OTHER
MONTHLY
AUTOMOTIVE
MAGAZINE



Classified Advertisements

SALES REPRESENTATIVES — Well established light bulb manufacturer requires additional sales representation among the automotive parts jobbers on newly designed rough service lines having low list price. Excellent opportunity. Write full details. Box MA 1780, 221 W. 41 St., N. Y. 36.

FOR SALE — NATIONALLY KNOWN AUTO - DEALERSHIP. Serving wide radius in N. E. Mass. \$396,000 gross in '51 from new and used cars, trucks, parts dept. and garage repairs. Housed in modern brick and concrete bldg. on ¼-acre plot. Property (valued at \$152,000), equip. and good-will priced to sell at \$250,000. Invty. offered at cost. No. 2H-N8427.

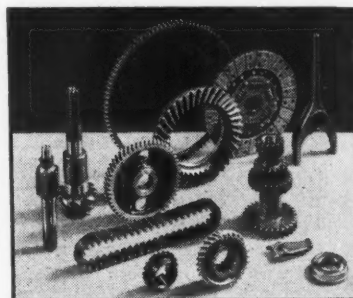
FOR SALE — NATIONALLY KNOWN AUTO - AGENCY, SERVICE STATION AND GARAGE Est. 24 yrs. in thriving Vt. community. Netted \$17,000 on \$130,000 gross last yr. Sale includes ½ acre, inventory, bldgs. and operating equipment. Full price is \$110,000. Chas. Ford & Assoc., Inc., 10 N. Clark, Dept. 992, Chicago 2, Ill.

WANTED—MAN to sell and supervise the sale of proven high quality, low-priced line of **SPECIALIZED EQUIPMENT** to Service Stations, Garages, and Fleet Operators. All items with high income value to purchasers. No inventory. All shipments direct from factory. Our regular agents easily earn from \$200 to \$400 weekly. You can investigate our offer on a part-time basis. Write H. Pearson, B & B Mfg. Co., Sioux City, Iowa, for complete details on factory-to-user plan.

CAR AGENCY - GARAGE — Well-established new car agency and service garage in Northwestern Penna., doing \$20,000 net profit annually. Includes new wrecker, all parts and tools, 3 gas pumps, tanks, hoist and all equipment. Building in A-1 condition, office, show room, huge garage (8000 sq ft.), 6-rm., bath apt. and two 4-rm., bath apts., each with private entrance, steam heat. Illness only reason for selling; real estate optional, price reasonable. No. 2302. WEST'S, F. W. Cubbon, Rt. 1, Oil City, Pa.



PERFECTION
PARTS
are
Certified to excel



PERFECTION GEAR CO.
HARVEY, ILLINOIS



"Want to hear SOME SWEARING?"



I'LL SWEAR—and I want you to hear me: Martin-Senour Undercoats give me the best results every time. I know it's the proved way to keep the finish coat from sinking in, the sure way to get perfect adhesion to bare metal or old finish. And these Undercoats sure save work for me. In the first place they give quicker drying so my jobs are ready for sanding in shorter time. And that sanding is easier too because I get the right build for perfect feather edging. Believe me, Martin-Senour makes the Undercoats you swear *by*, not *at*!

MARTIN-SENOUR MAKES 3 TYPES OF UNDERCOATS —ALL SHOP-PROVED, ALL EASIER TO USE

Lacquer Primer-Surfacers — combination primer-surfacer for use over either clean bare metal or old paint surfaces.

6252—light gray 6255—dark gray
6256—red oxide

Synthol Primers—to prime over sheet steel or any previously painted surface. For fleet work and quality used-car refinishing.

8093—white 8094—gray
8095—dark red

P-S-G Cotes—lacquer base to prime and seal over old lacquer and enamel finishes and provide proper ground coat for lacquer or enamel.



"Martin-Senour Undercoats are the best I've ever worked with," says Gene Struble, Gene's Auto Body Works, Haskell, N. J.

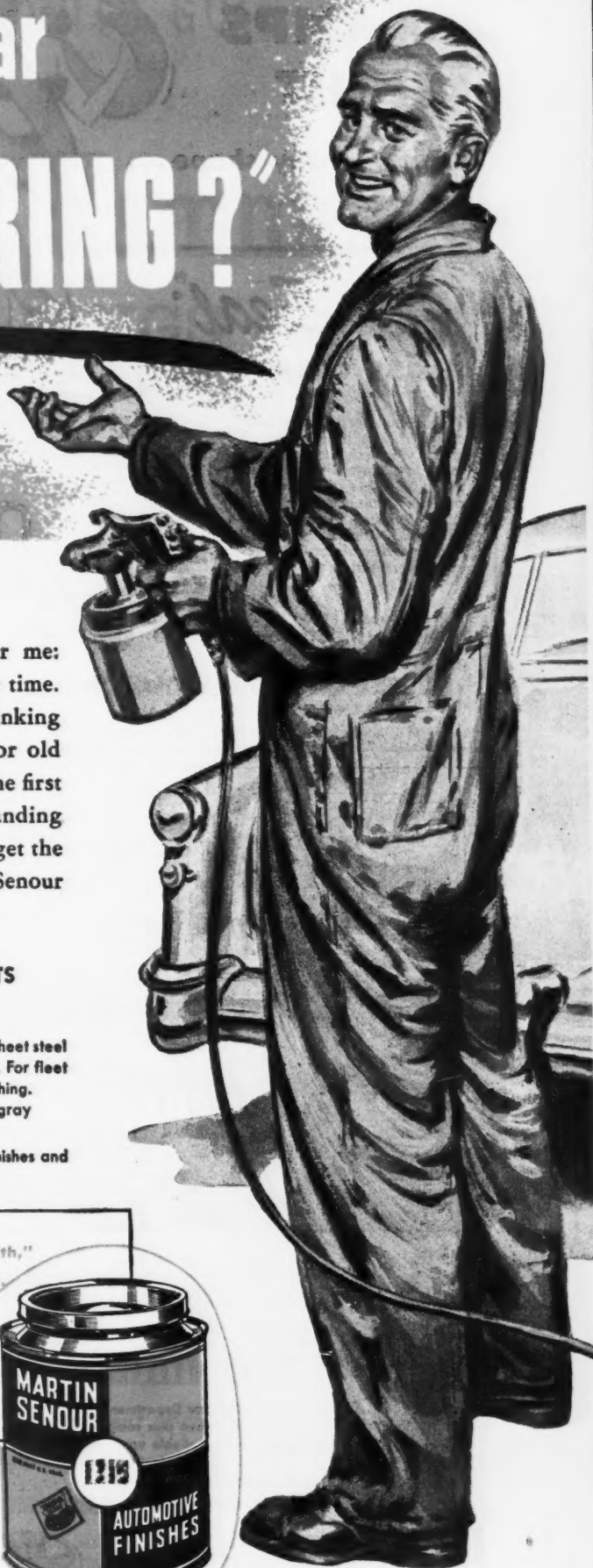
"We use all three types of Martin-Senour Undercoats in our shop. That way we know we're getting a base for the finish coat that is tough and durable. You can tell by the way they fill, dry and hold out that you're putting on real protection for the finish coat, protection that works from the inside out."

Your N.A.P.A. Jobber has Martin-Senour Undercoats

MARTIN-SENOUR

2520 South Quarry Street, Chicago 8, Illinois

Factory Packaging . . . the only positive control from Factory to Finisher



CLAMPS TIGHT

around any shape...

"Aero-Seal" HOSE CLAMPS

Tighten an Aero-Seal around any shape. It locks where it stops. Won't shake loose, distort hose, bite at clamping point. Stainless steel band resists corrosion. Use again and again. Sales come easier with Aero-Seal. Contact your jobber, or write direct, for further information.

The Largest Selling Quality
Hose Clamp In The World

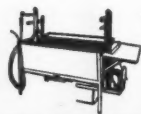
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41 South Sixth St., Newark 7, N. J.

Use of stainless steel subject to government regulations.



PLO-TEST MACHINE
diagnoses radiator
oilments in advance



TEST and REPAIR BENCH
with Electric Elevator
... Rugged labor-saver



HOT CLEANING TANK
for hot chemical
cleaning



LEAK EXPOSER
"Locates the
Hard to Find Leaks"

INLAND offers Everything for your RADIATOR DEPARTMENT

ALL TOOLS, SUPPLIES, CORES and EQUIPMENT
for MODERN RADIATOR SERVICE



DRAIN COCK FLANGE



No. 2085 Gloves
All purpose
universal size



TANK PATCHES
for cracks
around inlet



TEST PLUGS
Sets or single,
3/4" ID to 2 1/2" ID

Starting a New Radiator Department?
Training school for radiator repairmen plus complete operating
instructions and assistance available upon request.

Write for FREE CATALOGS
State Catalog Wanted—Supplies... Equipment... Cores

INLAND MANUFACTURING CO.

Dept. MA-8 1108 Jackson St. Omaha, Nebraska



EVERY MECHANIC AND
EVERY SHOP NEEDS THESE
RIMAC
TIME AND LABOR SAVERS

1. Ring-Master PISTON RING COMPRESSOR No. 220—for cars and light trucks. Capacity 2 1/2" to 5", Ht. 3 1/4". Larger sizes for trucks, tractors, and Diesels.
2. RING GROOVE CLEANER No. 122—Removes carbon from grooves, all pistons from smallest to 6".
3. COMPRESSION INDICATOR No. 61—Range 0 to 160 lbs. VACUUM INDICATOR No. 66—Range 0 to 30 in.
4. SPRING TESTER No. 67—For Valve and Clutch Springs.
5. FLEX-STONE No. 1—Contact Point Dressers. No. 2—Extra thin and fine for voltage regulators.

Write for Complete
Rimac Catalog

RINCK-McILWAINE, INC.
16 Hudson St., New York, N.Y.



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AUTOMOTIVE
PRODUCTS

BURD PISTON RING COMPANY
Division of THE GABRIEL COMPANY • ROCKFORD, ILLINOIS

PISTON RINGS

VALVE PACKING

DE-GLAZING TOOL

VALVE GUIDES

HYDRA THERMOSTATS

HYDRA HOT WATER CAR HEATERS

METAL ENGINEERING COMPANY
134 N. La Salle St.
CHICAGO 2, ILL.

LOOKING FOR
BIG VOLUME SALES
in RESALE TOOLS?

Ask your jobber
about the latest

METCOID

HANDY SELF-DISPLAY
TOOL KITS

RING THE BELL—PROFITS GOING UP!

WITH

American Hammered

PISTON RINGS and

Power-Plus Service

All the features of American Hammered Piston Rings and Power-Plus Service assure you more profits . . . better jobs . . . higher customer satisfaction!

KOETHERIZING

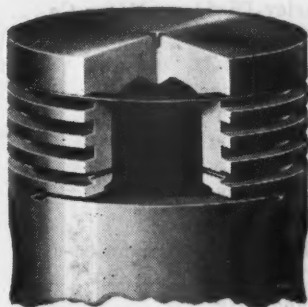
Stresses have collapsed piston by pushing skirt inward, causing piston slap and ring wear.



Inside of piston skirt being peened with shot at the rate of 16,000 a second, causing rapid, accurate expansion.

Resizing is finished in seconds. And, because Koetherizing takes place when metal is cold, the piston will never collapse again. Remember, more

pistons have been resized by Koetherizing than by any other method.



GI-60

GROOVE INSERT

The GI-60 Groove Insert forms a heat-treated, spring-steel shield which resists wear and pounding of the top land better than either aluminum or cast iron. This insert is locked permanently in place and affords perfect seating for the new ring.

DRY FILM LUBRICANT

Dry Film Lubricant furnishes outstanding protection against serious friction damage and allows a good, snug fit, without danger of scuffing during the critical break-in period. It also offers positive, visual proof of Koetherizing.



American Hammered

Automotive Replacement Division

800 SANFORD STREET, MUSKEGON, MICHIGAN

For the best results in engines, for the best results with customers, get American Hammered Piston Rings and Power-Plus Service, the most complete piston ring service in the field.

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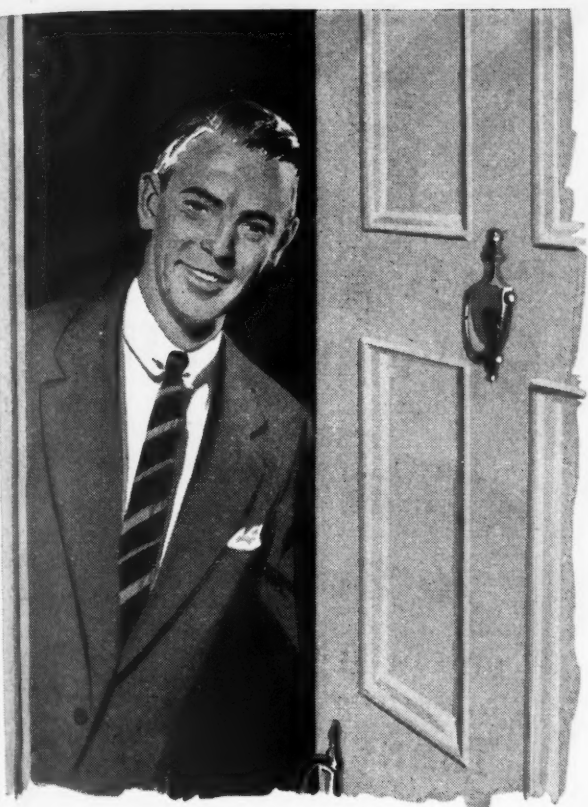
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**OPPORTUNITY
IS KNOCKING
RIGHT NOW!**

Hudson's new wonder car a sure-fire sensation in the low-price field !

DETROIT's big secret is out! It's the opportunity of a lifetime for alert dealers.

Every road test proves it—Hudson's new wonder car will outperform anything in the low-price field. Breath-taking acceleration and smooth, sustained power give performance so sensational that it can be compared only to the fabulous Hudson Hornet itself.

There's never been anything like it before!

The ride is out of this world! It takes a corduroy road as easily, as sweetly as it does a boulevard. There's a hug-the-road sureness of handling never before even approached in the low-price field.

It will be the safest car in its class!

Extraordinary durability in every sense of

the word will be introduced to the low-price field for the very first time.

Hudson's exclusive "step-down" design makes the wonder car possible. And it is "step-down" design that creates benefits and qualities that have been impossible in the low-price field up to now.

First cars produced will be four-door sedans, which seat six passengers in full comfort. Other models will follow.

You'll really see action the minute the buying public sees it!

But don't wait until it's too late . . . if you want to profit from this car and the other great Hudson series, look into a Hudson franchise, *now!*

A few choice dealer franchises are available. For confidential advance information on Hudson's new, low-price wonder car and the Hudson franchise, *send in this coupon today!*

HUDSON

C. A. J. Hadley, Sales Manager
Hudson Motor Car Company
Detroit 14, Michigan

Send me details on the Hudson dealer franchise and the confidential advance information on Hudson's new wonder car. I understand this will be kept strictly confidential.

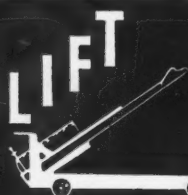
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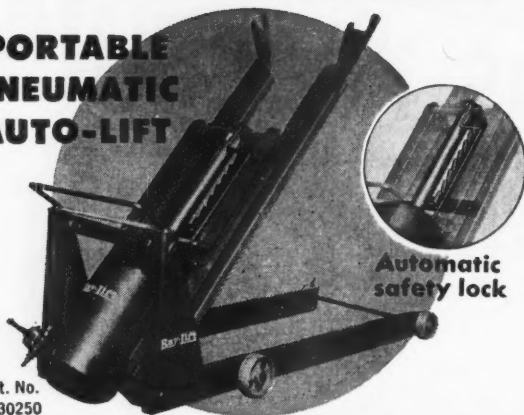
City & State

Business Position

BAY



PORTABLE PNEUMATIC AUTO-LIFT

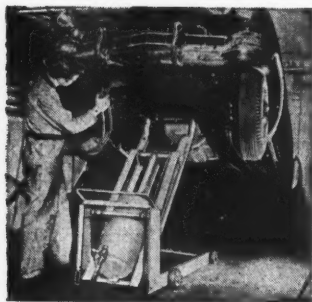


Pat. No.
2230250

**NO OTHER LIFT DOES THE
JOB AS WELL NO MATTER
WHAT THE COST OR CLAIMS**

IDEAL FOR: Steam Cleaning Racks — Body and Fender Depts. — Paint and Brake Depts. — Auxiliary Greasing — Shock Absorber Service — Front End Rebushing — Tightening and Undercoating Work. Also heavy duty models for trucks.

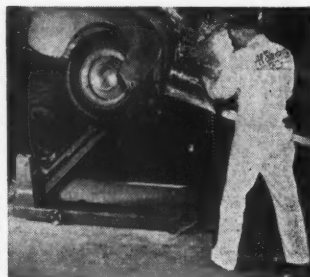
GUARANTEED • SAFE • ECONOMICAL



Bay-Lift is an air-operated lift—with capacity of 3000 lbs. Can be moved as easily as a jack and used anywhere, indoors or out, by simply attaching an air hose. Equipped with automatic safety lock.

DOUBLE SAFETY FACTOR

Lifts either end of any automobile with safety. No "tricky" attachments required. Front axle is welded to frame giving additional strength. No part of the Bay-Lift extends beyond area occupied by car. Thus saving valuable floor space.



WRITE TODAY FOR FULL INFORMATION

BAY MANUFACTURING COMPANY

BOX 578 — TORRANCE, CALIFORNIA

OVERSEAS DIVISION, 276 WEST 43RD ST., NEW YORK 36, N. Y.



WHEEL WEIGHTS



"The Quality Line"

A TYPE and SIZE for EVERY APPLICATION

SEE YOUR JOBBER OR WRITE FOR CATALOG

TURNER Manufacturing Co.
KOKOMO, INDIANA, U.S.A.

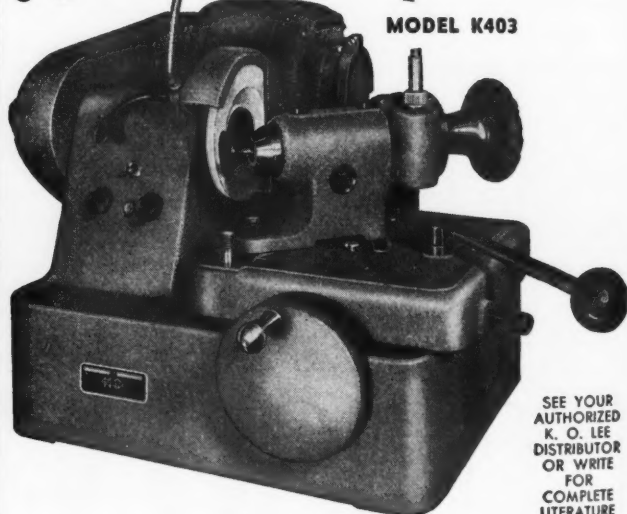


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*If it's made by Lee
it's a "Knock-Out"*

MODEL K403



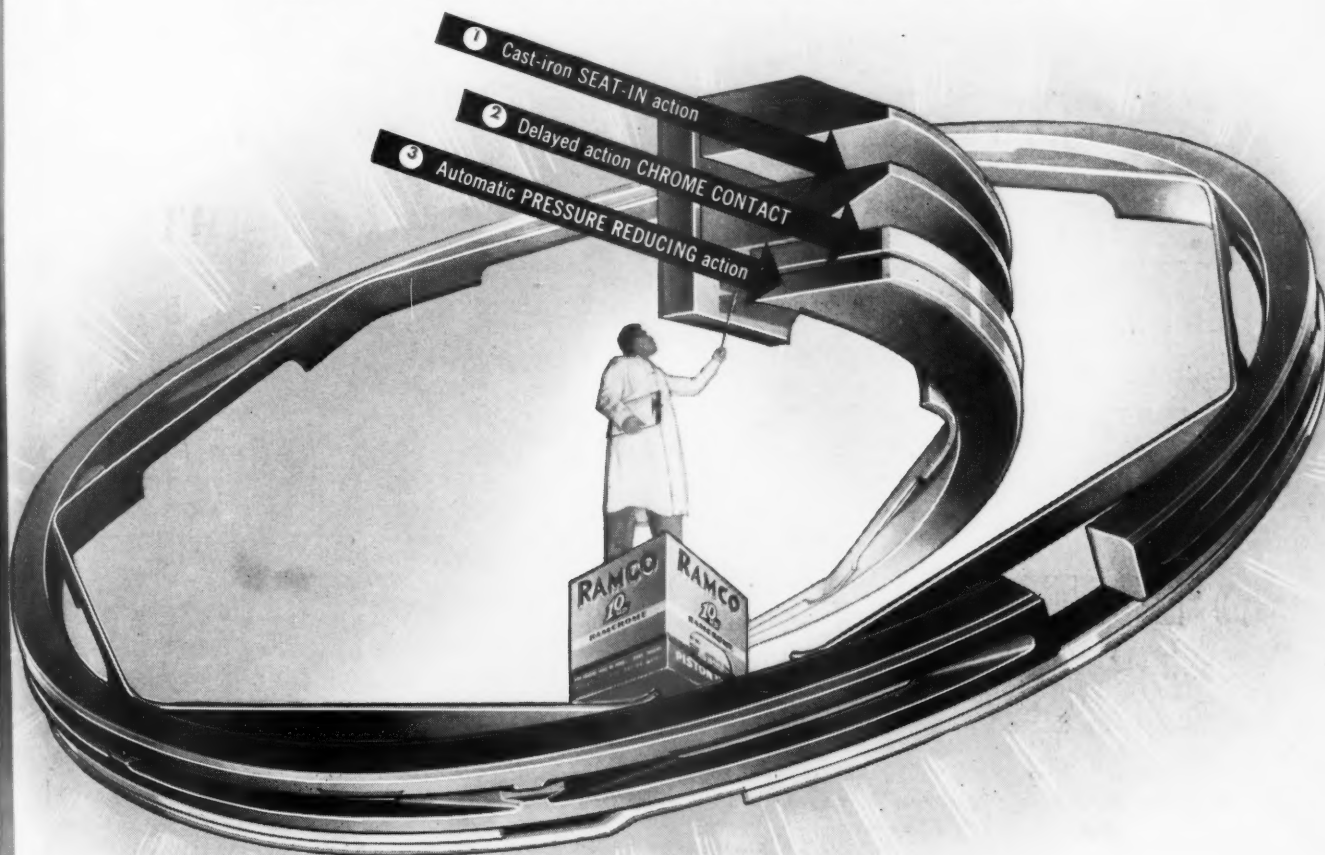
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GETS THE MOST OUT OF CHROME with



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- ✓ **Faster Oil Control**
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Where friction reducing chrome ring installations are indicated . . . get the most out of chrome's long life superiorities by installing Ramcrome 10-Up Ring combinations. Ramco's patented Spiro-Seal and Double-Life Principles have made possible Ramco's newest origination . . . the 3-Way Control Principle that gets the most out of chrome.

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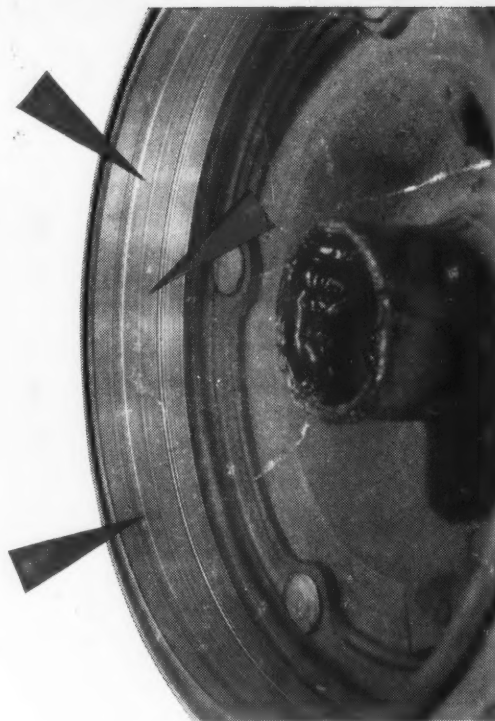
Now, 2 outstanding Ring Combinations

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RAMCO *10*_{up}

**Should
WIRE-BACK
BRAKE LINING
be used
for
Bonding?

NO!**



The use of wire-back brake lining for bonding just doesn't make sense. Actually it's wasteful, because:

The main argument for bonding is that you get more friction wear surface since there are no rivets and the lining can be worn to a greater depth. But when wire-back segments are used for bonding this advantage is lost as they can be worn only to the wire, then metal meets metal with scored drums a real probability.

This can't happen with Thermoid molded bonding segments. They can be worn practically to the shoe surface because they are high quality friction material throughout—not of wire-back construction.

If you want wire-back lining, Thermoid makes and sells the best; and it will bond well. But we can't honestly recommend *any* wire-back for bonding, because it defeats the main advantage of bonding.

Thermoid Custom Built Bonding Segments are positive in their holding power . . . do not fade or disintegrate . . . never scratch or score brake drums. They duplicate in the bonding field the same high standards for which Thermoid CB Sets have always been known. They carry the same unqualified guarantee of the Pittsburgh Testing Laboratory.



Thermoid

Thermoid Company • Trenton, New Jersey

the standard of precision processing in brake lining, brake blocks, hydraulic fluid, cylinder assemblies, hydraulic brake parts.